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ABSTRACT

This report presents a comprehensive analysis of the reasons why girls and young women smoke, drink and use drugs, and what increases or lowers their risk of substance abuse. It demonstrates that certain key risk factors for substance abuse are unique to girls and young women and pose a greater threat to them than to boys and young men. This report reveals the need for a complete revamping of the Nation's prevention efforts to: tailor programs to the unique motivations and vulnerabilities of girls; intervene earlier with all girls, before unhealthy attitudes, beliefs and behaviors set in; target all girls and young women going through key life transitions that increase their vulnerability to substance use; target girls known to be at particularly high risk, such as those who have suffered from sexual or physical abuse, are depressed, have eating disorders, or have parents or friends who abuse substances. It illustrates the many life pathways that can hike the risk of substance abuse among girls and young women, including incorrect knowledge and beliefs about substances, inattentive parents, substance-using friends, schools and communities that turn a blind eye, physicians who are not vigilant to early warning signs, and exposure to the entertainment media advertising which shower girls and young women with unhealthy and unrealistic messages about smoking, drinking and weight loss. Six appendixes contain survey methodology, survey instrument, focus groups methodology, descriptions of national surveys, select female-specific prevention programs, and select female-specific treatment programs. (Contains 593 references and 5 tables.) (GCP)

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The Formative Years:

Pathways to Substance Abuse Among Girls and Young Women Ages 8-22

February 2003

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Accompanying Statement by Joseph A. Califano, Jr., Chairman and President

For more than three years, The National Center on Addiction and Substance Abuse (CASA) at Columbia University has been examining the reasons why girls and young women use--or don't use--tobacco, alcohol, illegal drugs like marijuana, cocaine and Ecstasy, and certain prescription drugs for nonmedical purposes. The result is *The Formative Years: Pathways to Substance Abuse Among Girls and Young Women Ages 8-22,* the most exhaustive such study ever undertaken.

The Formative Years seeks to identify characteristics of girls and young women who abuse substances and when they are at highest risk of doing so. It assesses the impact of such use--including the likelihood that experimentation will become addiction--on girls and young women.

This three-year study reveals that girls and young women use substances for reasons different than boys and young men, that the signals and situations of higher risk are different and that girls and young women are more vulnerable to abuse and addiction: they get hooked faster and suffer the consequences sooner than boys and young men.

These findings cry out for a fundamental overhaul of public health prevention programs.

Unisex prevention programs--largely developed without regard to gender, often with males in mind--fail to influence millions of 8- to 22-year old females. To help girls and young women stay away from tobacco, alcohol and illicit drugs, we must craft prevention programs aimed at the factors that increase and decrease the risk of using these substances. The women of America have paid a fearful price for our failure to do so.

More than 4.4 million women are alcoholics or abuse alcohol; more than two million use illegal drugs; more than 31 million smoke. If years ago we had in place prevention and treatment programs tailored to the needs of girls and young women, those numbers could have been significantly reduced. A 25 percent reduction--a modest estimate--might have saved 1.1 million women from becoming alcoholics, 500,000 from drug abuse and eight million from smoking.

For decades, the for-profit marketers, including the tobacco, alcohol and entertainment industries, have recognized the importance of shaping campaigns to influence girls and young women. For decades, cigarette companies have cleverly manipulated young women. The 1925 *Lucky Strike* cigarette advertising campaign, "Reach for a Lucky instead of a sweet," was associated with a 200 percent increase in market share. *Capri* cigarette ads claim, "There's no slimmer way to smoke" and call *Capri* cigarettes "the slimmest slim in town." And we are all familiar with Phillip Morris's *Virginia Slims*.

The time has come for parents, schools, physicians, clergy and the entire public health community to recognize the different motivations and vulnerabilities of girls and young women. When they act on those differences, we will begin to see dramatic declines in substance abuse among girls and young women.

The public policy and research community has failed to pay sufficient attention to this population, too often focusing only on boys or failing to examine the unique motivations that prompt girls and young women to abuse substances and the accelerated consequences of such abuse.

Truly effective substance abuse prevention and treatment for girls and young women requires tailoring programs to address the risks and consequences of smoking, drinking and drug use that are unique to them. The public health community needs to drive home the message that on average, one drink has the impact on women that two drinks have on men.

Prevention programs need to recognize, for example, that girls are more likely than boys to be depressed, have eating disorders or be sexually or physically abused, all of which hike the chances for substance abuse. Girls are likelier than boys to use alcohol and drugs to improve their mood, enhance sex and reduce inhibitions.

Key transitions increase risk. Girls experiencing early puberty are likelier to engage in substance use. Among teens who move frequently from one home or neighborhood to another, girls are at greater risk than boys of substance use. Girls making the transition from high school to college show the largest increases in smoking, drinking and drug use.

Girls' substance use can sink into abuse more quickly than boys and the health consequences in many cases are more severe.

Girls are more likely to be offered drugs by a female acquaintance, a young female relative or a boyfriend, whereas boys are more likely to be offered drugs by a male acquaintance, a young male relative, a parent or stranger. Girls are likelier to receive offers to smoke, drink or use drugs in private settings, whereas boys are likelier to receive these offers in public settings. Girls are less likely to be asked to show proof of age when buying cigarettes.

One-size-fits-all prevention hasn't worked--and it won't--because it doesn't recognize these differences.

Despite promising statistics on recent declines in youth substance use, more than one quarter (27.7 percent) of high school girls currently smoke cigarettes, 45 percent drink alcohol, more than a quarter (26.4 percent) binge drink and one in five (20 percent) use marijuana. Some four percent are current users of cocaine (3.7 percent) or inhalants (4.2 percent). In recent years younger girls have been smoking and drinking as much as boys, and are catching up in the use of illicit drugs. Girls are initiating substance use nearly as early as boys. Unfortunately, girls are suffering consequences beyond those of boys.

These persisting high rates of substance use and the closing of the gender gap demonstrate that our teenage girls are still not getting the message.

For a decade, CASA has been on the forefront of studying women and substance abuse, in reports that include *Substance Abuse and The American Woman* (1996) and *Under the Rug: Substance Abuse and The Mature Woman* (1998). This report--*The Formative Years: Pathways to Substance Abuse Among Girls and Young Women Ages 8-22*, with its enormous implications for prevention, treatment and future research about girls and young women--may be the most important study yet.

As part of this unprecedented undertaking, CASA conducted a unique two-part national survey of 1,220 girls and young women passing from elementary to middle school, middle to high school, high school to college, and college into the world beyond. CASA also conducted focus groups with preadolescent girls ages eight to 12, and with their parents, to understand their attitudes, beliefs and behaviors about smoking, drinking and using drugs.

CASA performed extensive analyses of underlying data from four national data sets--the National Household Survey on Drug Abuse (NHSDA), the Youth Risk Behavior Survey (YRBS), the National Longitudinal Study of Adolescent Health and CASA's Annual National Surveys of American Attitudes on Substance Abuse. CASA examined the impact of a wide variety of programs and policies on preventing and treating substance abuse among girls and young women. Finally, CASA reviewed the findings of more than 1,000 reports, articles and books.

The Formative Years explores the pathways girls travel toward substance abuse--via family circumstances, personality traits, childhood experiences, biology, the influences of friends and peers, the communities where they live and the advertising and media messages that bombard them. The report describes the effects on substance use of key transitions in a girl's life, such as moving from middle to high school and high school to college, and physiological and emotional transitions experienced during puberty and throughout adolescence. Most importantly, it reveals vital opportunities for prevention and intervention during these key transitions.

Here are some of the key findings of this first comprehensive assessment of the causes and consequences of substance abuse among girls and young women:

Girls who abuse substances are likelier to be depressed and suicidal--increasing the risk for substance abuse.

- More than one-third (34.5 percent) of high school girls report regular feelings of sadness or hopelessness (compared to 21.6 percent of boys). There is a relationship between girls' sense of hopelessness or depression and their smoking, drinking or using drugs.

- High school girls who smoke or drink are nearly twice as likely to report feeling depressed as those who have never smoked (47 percent vs. 25.3 percent) or drank (38.7 percent vs. 20 percent). Those who use marijuana are likelier to report feeling sad or hopeless than those who have never used marijuana (42.9 percent vs. 29.7 percent).

- High school girls are likelier than boys to consider (23.6 percent vs. 14.2 percent) and attempt (11.2 percent vs. 6.2 percent) suicide.

- High school girls who smoke or drink are more than twice as likely to have considered or attempted suicide as girls who have never smoked (37.7 percent vs. 14.4 percent) or drunk (27.4 percent vs. 11.3 percent). Those who use marijuana are likelier to have considered or attempted suicide than those who have never used marijuana (34.5 percent vs. 19.5 percent).

Girls are likelier than boys to diet and to have eating disorders. Such girls are at increased risk for substance abuse.

- High school girls are significantly more likely than boys to diet (58.6 percent vs. 28.2 percent) and to engage in unhealthy weight-related behaviors, such as fasting (19.1 percent vs. 7.6 percent), taking diet pills (12.6 percent vs. 5.5 percent) and vomiting or taking laxatives (7.8 percent vs. 2.9 percent) to control weight.
- Girls who engage in unhealthy dieting behaviors drink significantly more alcohol than nondieters.
- Girls who diet, even without engaging in unhealthy dieting behaviors, smoke significantly more than nondieters.
- *Although alcohol is high in calories and contributes to weight gain, only half (56 percent) of the girls surveyed were aware of this; 5.7 percent thought that drinking alcohol helps one lose weight.*

Girls are likelier than boys to have been physically or sexually abused. Such girls are at increased risk for substance abuse.

- 17 percent of high school girls have been abused physically (vs. 12 percent of boys); 12 percent of high school girls have been abused sexually (vs. five percent of boys).
- Girls who have been physically or sexually abused are twice as likely to smoke (26 percent vs. 10 percent), drink (22 percent vs. 12 percent) or use drugs (30 percent vs. 13 percent) as those who were not abused.

Among teens who move frequently from one home or neighborhood to another, girls are at greater risk than boys of smoking, drinking and using drugs.

Girls typically experience puberty at an earlier age than boys. Girls who experience early puberty are at increased risk of using substances earlier, more often and in larger amounts than their later-maturing peers.

Substance use can sink into abuse more quickly for girls and young women than for boys and young men, even when using the same amount or less of a particular substance.

- Girls appear to become addicted to nicotine even before they become regular smokers and they tend to develop symptoms of nicotine addiction sooner than boys.
- Females progress from regular alcohol use to alcohol abuse at a faster rate than males.
- Teenage girls are likelier than teenage boys to become addicted to cocaine.

Girls and women are likelier than males to experience adverse health consequences from smoking, drinking or using drugs.

- Females have greater smoking-related lung damage than males.
- Females have greater susceptibility to alcohol-induced brain damage, cardiac problems and liver disease than males.
- Females are more susceptible to Ecstasy-induced brain damage than males.
- Teenage girls are likelier than boys to be hospitalized due to the misuse of medications, such as acetaminophen (Tylenol) or antidepressants.

Substance use increases the likelihood that girls will engage in risky sex or be victims of sexual assault.

- Girls and young women who frequently use alcohol or drugs are likelier to engage in risky sexual behavior than those who experiment with or abstain from alcohol or drugs.

- Girls who are under the influence of alcohol or drugs are more vulnerable to sexual assault and to assault via the use of "date-rape drugs."

Teenage girls are likelier than women of any other age to smoke, binge drink and use illicit drugs during pregnancy.

Girls differ from boys in their ease of obtaining tobacco, alcohol and drugs and in the offers they receive to use these substances.

- More girls than boys (72.9 percent vs. 64 percent) are not asked to show proof of age to purchase cigarettes.
- Teenage girls are likelier than teenage boys to report that cocaine, crack, LSD and heroin are fairly or very easy to obtain.
- Girls are likelier to be offered drugs by a female acquaintance, a young female relative or a boyfriend, while boys are likelier be offered drugs by a male acquaintance, a young male relative, a parent or a male stranger.

The findings of this report of the different pathways of girls and women to substance abuse demand a complete revamping of prevention efforts--to take advantage of knowledge about the unique factors linked to substance abuse among girls.

This report underscores the need for a comprehensive approach to prevention among girls and young women--beginning at home, in elementary schools, churches, synagogues and mosques, and doctors' offices and clinics, and continuing with strong, consistent messages through middle and high school, college and beyond.

Parents are the first line of prevention. CASA's *Formative Years* survey found that most girls (61.6 percent) who have conversations with their parents about substance use say that the conversations made them less likely to smoke, drink or use drugs.

Prevention efforts in schools and communities must recognize that one size doesn't fit both girls and boys.

Prevention efforts should target girls most at risk: those who have a history of sexual or physical abuse, have moved frequently, are depressed, anxious or suicidal, experience puberty early or are overly concerned about their weight and appearance.

Health professionals--notably pediatricians, family physicians, obstetricians/ gynecologists, and even dentists who often can detect signs of a substance use or eating disorder during a routine checkup--should be alert to signs of trouble, routinely screen young female patients for substance use and encourage those in need of help to seek treatment.

The clergy have a significant role. Girls tend to be more religious than boys and to hold more favorable attitudes towards religion. Religion and spirituality play a particularly protective role for girls and young women. *CASA's Formative Years survey and its analysis of data from the National Household Survey on Drug Abuse found that the more frequently girls attend religious services, the less likely they are to smoke, drink, binge drink or use drugs.*

Policymakers and researchers have got to stop acting like Rex Harrison in *My Fair Lady* singing, "Why can't a woman be more like a man!" One reason for the limited effectiveness of prevention and treatment programs for girls and young women is that policymakers and researchers too often focus only on boys or lump girls and boys together in their studies. This report highlights key gaps in the research on young female substance abuse and provides a road map to help researchers close these gaps. A good place to start might be to examine those treatment programs, like the Betty Ford Center, which separate women and men and appear to have increased success with women.

Our deepest thanks goes to the Bristol-Myers Squibb Foundation, and particularly to CASA Board member Peter Dolan, the Company's Chairman and Chief Executive Officer, and John

Damonti, the Foundation's President, who had the insight and courage to fund all three of CASA's studies on substance abuse and women. This research is an important part of the Foundation's larger commitment to women's health in our Nation and the world. Thanks also to Patricia Doykos Duquette, PhD for her support. And, we thank the Abercrombie Foundation for their contribution to this work.

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While many individuals and institutions contributed to this effort, the findings and opinions expressed herein are the sole responsibility of CASA.

Chapter I
Introduction and Executive Summary

The Formative Years: Pathways to Substance Abuse Among Girls and Young Women Ages 8-22 is an unprecedented comprehensive analysis of the reasons why girls and young women smoke, drink and use drugs, and what increases or lowers their risk of substance abuse.

This CASA report demonstrates that certain key risk factors for substance abuse are unique to girls and young women and pose a greater threat to them than to boys and young men. For example, girls are likelier than boys to experience eating disorders, depression and sexual abuse, each of which propels a girl farther down the pathway to substance abuse.

Key life transitions are important in different ways for girls and boys. School-related transitions--from elementary to middle school, middle to high school and high school to college--are risky times for girls. Frequently moving from one neighborhood or community to another increases the likelihood of substance abuse more for girls than for boys. The physical and emotional transformations associated with puberty--especially early puberty--increase the risk for substance use among girls more than among boys. Other transitions unique to females--such as girls' initial use of birth control or pregnancy--present key opportunities for intervention that too often are missed.

Timely intervention, sensitive to the many differences in the needs of girls and boys, is critical since female substance use sinks more quickly and dangerously into abuse and addiction than does male substance use.

This report reveals the need for a complete revamping of the Nation's prevention efforts to:

- Tailor programs to the unique motivations and vulnerabilities of girls;

- Intervene earlier with all girls, before unhealthy attitudes, beliefs and behaviors set in;
- Target all girls and young women going through key life transitions that increase their vulnerability to substance use or present critical moments for reducing substance use;
- Target girls known to be at particularly high risk, such as those who have suffered from sexual or physical abuse, are depressed, have eating disorders, or have parents or friends who abuse substances.

To plot the pathways to substance abuse among girls and young women, CASA conducted a two-part national survey designed to capture the roles of emerging attitudes, beliefs, behaviors and life circumstances on female substance use during the critical formative years of childhood, adolescence and young adulthood. The unique survey was administered to 1,220 girls and young women going through key life phases believed to affect their exposure and vulnerability to substance abuse--the transition from elementary to middle school, from middle to high school, from high school to college and from college to the world beyond. Girls in each of the four groups were interviewed late in the school year prior to the transition and then again, six months later, after making the transition.

CASA also conducted five focus groups in Westchester County, New York--three with preadolescent girls and two with their parents--to examine their attitudes, knowledge and behaviors relating to smoking, drinking and using drugs. The thoughts and opinions of these girls about tobacco, alcohol or drugs and those of their parents reveal key opportunities for early intervention to help prevent substance use among girls.

In addition to this original data collection, CASA's Substance Abuse Data Analysis Center (SADAC^{SM}) conducted extensive secondary analyses of data from four national data sets* to explore the factors related to substance use among girls and young women.

CASA also reviewed programs and policies designed to prevent and treat substance abuse specifically among girls and young women. Finally, CASA conducted an extensive literature review of more than 1,000 articles, reports and books concerning substance use and abuse among girls and young women.

This report is the most ambitious assessment of the pathways to substance abuse among young females in America, the consequences of substance abuse unique to them and the efficacy of current prevention and treatment programs in serving their needs. It reveals the many life pathways that can hike the risk of substance abuse among girls and young women, including incorrect knowledge and beliefs about substances, inattentive parents, substance-using friends, schools and communities that turn a blind eye, physicians who are not vigilant to early warning signs, and exposure to the entertainment media and alcohol and cigarette advertising which shower girls and young women with unhealthy and unrealistic messages about smoking, drinking and weight loss.

Pathways to Substance Use and its Consequences Differ for Girls and Boys

To improve the effectiveness of our prevention efforts, programs must recognize the unique dangers of substance use to girls and the differences between girls and boys in their reasons for such use.

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* The National Household Survey on Drug Abuse (NHSDA), Youth Risk Behavior Survey (YRBS), National Longitudinal Study of Adolescent Health (Add Health) and CASA's Annual National Surveys of American Attitudes on Substance Abuse.

Girls are More Vulnerable Than Boys to the Health Effects of Substance Use

Girls and young women are especially vulnerable to the physical consequences of smoking, drinking and using drugs, *even when using the same amount or less of a particular substance than boys and young men.*

Tobacco. Girls may develop symptoms of nicotine addiction faster than boys and become addicted to nicotine even before they become regular smokers.

Alcohol. Females progress from regular alcohol use to alcohol abuse at a faster rate than males. Female alcohol abusers are more susceptible than male alcohol abusers to health disorders, such as liver disease, cardiac problems and brain damage, which occur more quickly and with lower levels of alcohol consumption than in males.

Drugs. Females appear more susceptible than males to brain damage from heavy use of Ecstasy. Teenage girls are likelier than teenage boys to become addicted to cocaine and to be hospitalized due to the non-medical use of medications, such as acetaminophen (Tylenol) or antidepressants.

Despite Greater Vulnerability, Younger Girls are Smoking and Drinking Like Boys

Tobacco. Middle school girls now smoke cigarettes at nearly identical rates as boys (nine percent vs. 10 percent in the past month); the same is true for high school girls and boys (27.7 percent vs. 29.2 percent) and young women and men in college (26.5 percent vs. 24.6 percent).

Alcohol. High school girls drink alcohol at rates close to those of boys (45 percent vs. 49.2 percent) and rates of drinking among the youngest high school girls and boys--ninth graders--are almost the same (40 percent vs. 42.2 percent). Sixty-five percent of college women drink alcohol compared to 70.4 percent of college men.

Drugs. Girls use prescription drugs such as painkillers[*] (8.7 percent vs. 7.3 percent), stimulants[†] (4.6 percent vs. 3.4 percent) and tranquilizers[‡] (2.7 percent vs. 2.1 percent) for nonmedical purposes at somewhat higher rates than boys. High school girls are almost as likely as boys to use cocaine (3.7 percent vs. 4.7 percent) and inhalants (4.2 percent vs. 5.1 percent). High school girls use marijuana at lower rates than boys (20 percent vs. 27.9 percent).

More Girls are Using Substances at Younger Ages, Raising Their Chances for Later Problems

- 23.9 percent of ninth grade girls vs. 17.5 percent of twelfth grade girls have smoked a whole cigarette before age 13.
- 34.5 percent of ninth grade girls vs. 17.5 percent of twelfth grade girls have tried alcohol before age 13.
- 8.6 percent of ninth grade girls vs. 5.3 percent of twelfth grade girls have tried marijuana before age 13.

Early substance use greatly increases the odds that girls will smoke, drink or use drugs in the future.

- Girls who use tobacco in elementary school are nearly three times likelier to smoke once they reach middle school than those who do not.
- Girls who drink alcohol in elementary school are more than four times likelier to drink in middle school than those who do not.

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[*] e.g., Percocet, Vicodin, Oxycontin

[†] e.g, Benzedrine, Ritalin, Dexedrine

[‡] e.g., Klonopin, Xanax, Valium

Life Transitions Influence Girls' Substance Use Differently Than Boys'

- Girls who experience early puberty are at increased risk of using substances sooner, more often and in greater quantities than their later-maturing peers.

- Teenage girls who moved frequently--six or more times in the past five years--from one home or neighborhood to another compared to those who had not moved at all in the past five years are:

  - Nearly three times likelier to report current smoking (35.3 percent vs. 13.5 percent), and this difference is greater than it is for boys (21.6 percent vs. 13.4 percent);

  - Likelier to report current alcohol use (25.4 percent vs. 16.1 percent), and this difference is greater than it is for boys (19.9 percent vs. 16.8 percent); and

  - Likelier to report current marijuana use (14.1 percent vs. 5.4 percent), and this difference is greater than it is for boys (11.2 percent vs. 6.4 percent).

- **CASA's *Formative Years* survey** finds that key school transitions pose special risks for girls:

  - The transition from elementary to middle school marks the greatest increase in girls' belief that smoking and drinking are ways to be rebellious and disobey adults.

  - The transition from middle to high school marks the greatest increase in girls' belief that drinking alcohol is "cool."

  - The transition from high school to college* is when young women report the greatest increase in smoking, alcohol use, binge drinking and marijuana use. This transition is also when the greatest increase is seen in girls' beliefs that smoking cigarettes helps people relax and that drinking alcohol helps reduce boredom, sadness and depression.

Girls Who Use Substances are Likelier to be Depressed, Suicidal and Get Into Fights--Each a Risk Factor for Sinking Further Into Substance Abuse

CASA's analysis of underlying data from the *Youth Risk Behavior Survey* shows that:

- High school girls who smoke or drink are nearly twice as likely to report feeling depressed as those who have never smoked (47 percent vs. 25.3 percent) or drunk (38.7 percent vs. 20 percent). High school girls who use marijuana are likelier to report feeling sad or hopeless than those who have never used marijuana (42.9 percent vs. 29.7 percent).

- High school girls who smoke or drink are more than twice as likely to have considered or attempted suicide as those who have never smoked (37.7 percent vs. 14.4 percent) or drunk (27.4 percent vs. 11.3 percent). High school girls who use marijuana are likelier to have considered or attempted suicide than those who have never used marijuana (34.5 percent vs. 19.5 percent).

- High school girls who smoke, drink or use marijuana are more than twice as likely to report having been in a physical fight in the past 30 days as those who have never smoked (38.7 percent vs. 16.5 percent), drunk (30.8 percent vs. 12.3 percent) or used marijuana (44.2 percent vs. 18.7 percent).

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* Throughout the report (for the sake of simplicity), when referring to participants making the transition from high school to college or from the senior year of college to the first year post-college, the designation "college" includes young women of the same age who did not attend college.

The earlier girls initiate alcohol and marijuana use, the likelier they are to report feeling sad, depressed or hopeless and to report getting into physical fights:

- Girls who began drinking before 13 years of age are likelier to report depressive feelings than those who initiated alcohol use in their later teen years (49.2 percent vs. 31.1 percent). Girls who used marijuana before 13 years of age are likelier to report feeling sad or hopeless than those who initiated marijuana use in their later teen years (56.2 percent vs. 38.8 percent).

- Girls who began drinking before 13 years of age are twice as likely to report getting into physical fights as girls who initiated alcohol use in their later teen years (45.3 percent vs. 23.2 percent). Girls who used marijuana before 13 years of age are likelier to report being in a physical fight in the past 30 days than those who initiated marijuana use in their later teen years (56.3 percent vs. 30.6 percent).

Girls and Boys Use Drugs for Different Reasons, Get Drugs From Different Sources, Differ in Their Ease of Obtaining Substances and are Targeted by the Media in Different Ways

- Young females tend to use alcohol or drugs to improve mood, increase confidence, reduce tension, cope with problems, lose inhibitions, enhance sex or lose weight, whereas young males tend to use alcohol or drugs for sensation seeking or to enhance their social status.

- Girls are likelier to be offered drugs by a female acquaintance, a young female relative or a boyfriend, whereas boys are likelier be offered drugs by a male acquaintance, a young male relative, a parent or a male stranger.

- Girls are likelier to receive offers to smoke, drink or use drugs in private places such as friends' homes, whereas boys are likelier to receive such offers in public settings such as parks or on the street.

- Among teens who purchased their own cigarettes from a store or gas station in the past month, more girls than boys (72.9 percent vs. 64 percent) report that they were not asked to show proof that they were of the legal age to purchase cigarettes.

- Teenage girls are likelier than teenage boys to report that cocaine, crack, LSD and heroin are fairly or very easy to obtain and are as likely as their male counterparts to report that marijuana is fairly or very easy to obtain.

- Tobacco and alcohol advertisers tend to target females' concerns about their appearance, reinforcing unhealthy standards of thinness and sex appeal; they play on males' desires for sensation seeking and enhanced social status.

Key Pathways to Substance Abuse Among Girls and Young Women

A girl or young woman's biology, personality, life experiences, family, religious involvement, culture, community, peer group and exposure to marketing and the media influence her risk for substance use and abuse.

Girls of Mothers Who Smoked Cigarettes or Drank Alcohol During Pregnancy are at Increased Risk for Smoking and Drinking

- Girls whose mothers smoked during pregnancy are four times likelier to smoke during adolescence and into young adulthood than are girls whose mothers did not smoke during pregnancy. Girls whose mothers smoked heavily during pregnancy are at five times the risk of drinking alcohol during their teen years.

- Girls whose mothers drank alcohol moderately to heavily during pregnancy are six times likelier to report having drunk alcohol in the past year than girls whose mothers drank less or not at all during pregnancy.

- The links between prenatal exposure to smoking and drinking and later substance use are significantly stronger for girls than for boys.

Weight Concerns, Unhealthy Dieting Increase Risk of Substance Abuse

CASA's *Formative Years* survey finds that:

- Girls who diet, even without engaging in unhealthy dieting behaviors such as not eating for 24 hours or more, taking diet pills or bingeing and purging, smoke significantly more than those who do not diet.
- Girls who engage in unhealthy dieting behaviors drink significantly more alcohol than those who do not diet.
- 5.7 percent of girls surveyed thought that drinking alcohol helps one lose weight; these girls tend to drink more than those who believe alcohol has no effect on weight.
- *Although alcohol is high in calories and contributes to weight gain, only 56 percent of the girls surveyed were aware of this.*

The Caffeine Connection for Girls

CASA's *Formative Years* survey finds that:

- Girls and young women who drink coffee are significantly likelier to be smokers than girls who do not drink coffee (23.2 percent vs. 5.1 percent).
- Girls and young women who drink coffee hold significantly more favorable attitudes toward alcohol and are more likely to drink than noncoffee drinkers (69.8 percent vs. 29.5 percent).
- Young women who drink coffee began smoking cigarettes and using alcohol at an earlier age and use more of these substances than girls and young women who do not drink coffee.

Sexual and Physical Abuse Increase Risk

Sexual abuse and physical abuse--experienced more often by girls than boys--are strongly related to substance abuse among girls and young women:

- Seventeen percent of high school girls have been abused physically; 12 percent sexually.
- Girls who have been physically or sexually abused are twice as likely to smoke, drink or use drugs as those who were not abused.
- Girls who have been sexually abused are more likely to abuse substances earlier, more often and in greater quantities.

Peers Influence a Girl's Substance Use

- **CASA's *Formative Years* survey** finds that the more friends a girl has who smoke, drink or use marijuana or other illegal drugs, the likelier she is to smoke, drink, binge drink or use marijuana or other illegal drugs herself.
- **CASA's *Formative Years* survey** finds that girls' perception of pressure by other people their age to smoke, drink and use drugs increases with age. Among fifth graders, 4.1 percent report pressure to smoke, 1.7 percent to drink and two percent to use drugs; among eighth graders, 29.5 percent report pressure to smoke, 23.3 percent to drink and 10 percent to use drugs; and among high school seniors, 40.5 percent report pressure to smoke, 46.4 percent to drink and 28.3 percent to use drugs.

Positive Attitudes About Smoking and Drinking Increase Risk

CASA's *Formative Years* survey finds that:

- Older girls are likelier than younger girls to believe that smoking helps people relax and that it is easy to get addicted to smoking.

Girls with favorable attitudes about smoking showed a greater increase in tobacco use across school transitions than those with less favorable attitudes.

- Older girls are likelier than younger girls to believe that drinking alcohol helps alleviate boredom, sadness or depression and that getting drunk gives people an excuse for doing things they would not usually do. Girls with favorable attitudes about drinking report greater alcohol use than those with less favorable attitudes.

Stress relief is one of the most common reasons given by girls for smoking, drinking or using drugs. Girls are likelier to respond to this stress with substance use, particularly smoking.

Marketing and the Media Target Girls' Insecurities About Their Appearance as Well as Their Preference for Sweeter-Tasting Beverages

Among girls 17 and younger, smoking initiation increased rapidly in 1967, the same year that the tobacco industry began aggressively advertising women's brands of cigarettes. Girls and young women who smoke to suppress their appetite are particularly vulnerable targets for the tobacco industry. The *Lucky Strike* cigarette brand advertising campaign, "Reach for a Lucky instead of a sweet," was associated with an increase in *Lucky Strike's* market share by 200 percent. *Capri* cigarette ads claim, "There's no slimmer way to smoke" and call *Capri* cigarettes "the slimmest slim in town."

A new breed of sweet-tasting alcoholic beverages known as "alcopops"--fruit-flavored, malt-based drinks that come in colorful packaging--hide the taste of alcohol and may be particularly appealing to girls. British girls, ages 11 to 16, drink alcopops more frequently than any other alcoholic drink; girls are likelier than boys to prefer alcopops to other types of alcoholic drinks (56.4 percent vs. 37.1 percent).

Positive Parent-Daughter Relationships, Religious Involvement, Extracurricular Activities Decrease Risk

Parent-Daughter Relationships

CASA's *Formative Years* survey shows that:

- The majority of girls (61.6 percent) who reported having conversations with their parents about smoking, drinking or drug use said that the conversations made them less likely to smoke, drink or use drugs.

- Half the girls (50.8 percent) reported that in the conversations they had with their parents about substance use, they learned things about tobacco, alcohol or illegal drugs that they did not already know.

- The worse a girl's relationship with her parents, the earlier her initiation of alcohol use and the greater her likelihood of drug use.

Religious Involvement

Girls tend to be more religious than boys and to hold more favorable attitudes towards religion. Religion and spirituality play a protective role in female substance use.

- **CASA's *Formative Years* survey** and CASA's analysis of underlying data from the *National Household Survey on Drug Abuse* finds that the more frequently girls attend religious services, the less likely they are to report smoking, drinking, binge drinking or drug use. These findings are consistent with results of CASA's *Annual Survey of American Attitudes on Substance Abuse*.

- **CASA's *Formative Years* survey** finds that younger girls report more frequent attendance at religious services than older girls. The level of importance of religion and spirituality to girls declines between middle school and the end of high school--fifth grade girls report the highest level of importance and high school senior girls report the lowest level of importance.

Extracurricular Activities

Teenage girls who participate in three or more extracurricular activities are:

- Half as likely to report smoking as those who do not participate in any activities (12.4 percent vs. 25.5 percent).
- Less likely to drink alcohol (14.9 percent vs. 19.2 percent) and use marijuana (4.8 percent vs. 10 percent) than girls who do not participate in any activities.

Current Prevention and Treatment Efforts are Failing to Get Through to Girls

Primary Care Physicians are Not Taking Advantage of Their Unique Position to Influence Young Female Substance Use

Adolescent girls rely heavily on their doctors and other medical professionals for information about their healthcare; yet primary care providers rarely counsel them about substance use.

In a large survey of youth in grades five through 12, smoking, drinking and drugs appeared among the 10 most frequently cited health topics that girls felt their doctors should discuss with them; yet less than 30 percent of these girls identified smoking, drinking or drug use as topics their doctors did discuss with them. Because evidence suggests that the window of time between the onset of regular alcohol use and alcohol abuse is shorter for women than for men, the need for early detection and intervention is even more critical for women.

Few Prevention Programs Employ Knowledge of Unique Risks to Girls

Girls are Likelier Than Boys to Attempt to Quit Smoking But Face Special Hurdles

Middle school (65.6 percent) and high school (63.3 percent) girls are likelier than middle school (54.7 percent) and high school (55.2 percent) boys to have tried to quit smoking in the past year. Despite this, girls are no more likely than boys to succeed at quitting.

Certain factors may be especially important in smoking cessation efforts of girls and young women:

- A history of depression and current depressive symptoms are associated with failure to quit smoking in females.
- Young women are likelier than young men to express concern about gaining weight when quitting smoking and to cite weight gain as a cause of smoking relapse.
- Girls are likelier than boys to respond positively to smoking cessation programs that include social support from the family or peer group.
- More women quit smoking during pregnancy, either spontaneously or with assistance, than at any other time in their lives. Yet as many as 33 percent of women relapse before delivery. Up to two-thirds of women have been found to relapse within one year after delivery. To address this problem, the American Legacy Foundation has initiated a national media campaign aimed at reducing smoking during pregnancy.

Girls and Young Women Have Unique Needs When it Comes to Alcohol and Drug Abuse Treatment

- Because girls are likelier than boys to experience physical and sexual abuse, treatment programs that employ confrontational approaches may be less appropriate for female survivors of such abuse.

- Parenting women have special needs and face numerous barriers to treatment entry and participation, such as lack of childcare.

Opportunities and Next Steps

The findings of this report highlight the need for a fundamental reshaping of how we approach substance abuse prevention for girls and young women so that programs are tailored to address the risks and consequences of smoking, drinking and using drugs that are unique to them.

Family, peers, physicians, schools, communities, clergy, media, policymakers and researchers have enormous roles to play in helping protect girls and young women from using and abusing substances.

To be effective for girls and young women, prevention programs should:

- Target girls at highest risk.

- Target key life transitions that are important for girls.

- Target reasons why girls turn to substance use and how girls obtain substances.

- Target all sources of influence and start early.

- Employ religion and spirituality when appropriate and be sensitive to racial, ethnic and cultural differences.

What Parents Can Do

Parents should be alert to warning signs of increased risk for substance use among their daughters, including depression, anxiety, excessive concerns about weight and appearance, risky sexual behavior, early puberty, psychiatric or conduct disorders or physical or sexual abuse. Parents can set good examples by not smoking, using drugs or abusing alcohol and by conveying firm and consistent messages against such conduct. Parents also can monitor daughters' activities, be engaged in their lives and communicate openly with them.

What Schools, Communities and the Clergy Can Do

Schools should encourage girls' participation in activities and events that make them feel connected to their schools and communities and provide girls with positive role models. Communities should ensure that establishments that sell alcohol or cigarettes conduct identification checks, and ensure that teachers, clergy and community leaders are well trained to recognize the signs and symptoms of substance abuse and to know how to respond appropriately to those in need of help.

What Health Professionals Can Do

Health professionals should routinely screen young female patients for substance use, depression, sexual and physical abuse, poor school performance, eating disorders, conduct disorders and stress and provide appropriate referrals. They should intervene with pregnant women to help them quit smoking, drinking and drug use as well as with those who have recently given birth to prevent relapse. Providers also should assure that treatment programs are sensitive to the unique needs of girls and young women and include family members and supportive peers in the treatment process.

What the Media Can Do

The media should refrain from presenting glamorous images of women smoking and drinking or making positive associations between smoking or drinking and thinness or sex appeal; refuse to accept alcohol advertisements for magazines with high proportions of girl readers and for television; and, include more programming and articles that convey prevention messages against smoking, drinking and excessive dieting and show their dangerous consequences.

What Policymakers Can Do

Government should invest in making treatment more available and accessible to female youth and in assuring that these programs take into account the different needs of girls and boys; provide funding for anti-smoking, drinking and drug use campaigns that are targeted to help girls and young women; and ban alcohol advertising on television as well as cigarette and alcohol advertising in print media that has significant youth readership. Government and insurance providers should reimburse health care professionals to perform screenings for substance abuse and other health risk behaviors that affect girls and young women. Policymakers should enforce penalties against commercial establishments that sell alcohol or tobacco to underage youth.

Closing the Research Chasm

Researchers should routinely explore gender differences in all studies related to youth substance use; conduct more research on gender differences in the biological/genetic risks and health and social consequences of all types of substance abuse; and evaluate the effectiveness of prevention and treatment programs for girls and young women. They should examine the ways in which tobacco- and alcohol-related messages in the media and in advertising influence the substance use behaviors--rather than just the attitudes--of girls and young women, and the impact of prevention media campaigns on girls and young women. Research also is needed to develop a brief, valid and reliable screening instrument that physicians can use to help identify substance use and associated problem behaviors unique to young female patients.

Chapter II

Why Study Substance Use Among Girls and Young Women?

Females differ from males in their motivations for substance use, their susceptibility to addiction and in their responses to prevention and treatment. For the past decade, CASA has made it a priority to study women and substance abuse. This research has culminated in two comprehensive reports. The first, *Substance Abuse and The American Woman*, presented an overview of the problem of substance abuse among women. The second, *Under the Rug: Substance Abuse and The Mature Woman*, was an unprecedented examination of the problem of substance abuse, particularly alcohol and prescription drug abuse, among women 60 and older.

Understanding how substance abuse affects women is important; understanding the unique pathways to addiction that originate in childhood and progress through adulthood is essential if we are successfully to combat this leading women's health problem. This report completes the trilogy of studies on women and substance abuse by exploring the pathways to smoking, drinking and drug use among girls and young women, from preadolescence through college age and their implications for prevention, treatment, research, policy and practice.

Pathways to Substance Abuse

No formula exists for identifying who will engage in substance use or if that use will lead to dependence or addiction. Certain factors increase the risk that a girl or young woman will travel the pathway to substance abuse or move her farther down that pathway; other protective factors help steer her away from the road to addiction. Risk and protective factors for substance use are linked to an individual's personality, family, peers, community and culture.

Despite the tremendous diversity of girls and young women living in the United States, research often fails to include girls and young women from diverse life circumstances and racial/ethnic and cultural backgrounds, although they vary dramatically when it comes to their risks for substance use and abuse. For example, girls who have experienced difficult life challenges--such as a family history of substance abuse, involvement in the juvenile justice system, physical or sexual abuse or poverty--may be farther along on the pathway to substance abuse than peers who do not face such challenges.

The Importance of Studying Girls and Young Women

In the past, girls' substance use rates and patterns were monitored primarily as a means of highlighting how much greater a problem substance use was for boys than for girls. Today, teenage girls are using some substances of abuse at rates similar to those of boys (particularly tobacco)[1] and even surpassing boys in their misuse of other substances (such as prescription drugs).[2] Among college students, young women are competing with young men not just in academics, but in rates of abusive drinking as well.

> *The drug abuse level among girls is now essentially the same as it is with boys. That's not the same as it was 10 years ago when it was overwhelmingly a young man's problem.*[8]
>
> --Barry McCaffrey, Former Director
> Office of National Drug Control Policy

Research examining pathways to substance use and addiction tends to focus on teens in late adolescence, without much regard to gender differences.[3] Few studies have focused on the pathways to and consequences of substance use for girls and young women or on gender differences in the pathways to substance use. To develop effective ways to prevent and treat substance abuse among girls and women, women must be studied in their own right.

Traditional Gender Stereotypes

Our society has specific, yet evolving, concepts of appropriate female versus male characteristics and behavior. Stereotypically feminine attributes include being affectionate, gentle, understanding and sensitive to the needs of others, whereas stereotypically masculine attributes include characteristics such as being ambitious, self-reliant, independent and assertive.[4]

Girls and women who hold more traditional attitudes about gender are less likely to engage in substance use, particularly alcohol use, than are those with more nontraditional attitudes.[5] The reverse is true for boys and men.[6] In a study of high school teens, girls identified concerns about physical appearance (i.e., wanting to be pretty, avoid premature aging) as a constraint on their use of marijuana, and reported that both the social pressure to use marijuana and the perceived benefits of doing so (i.e., being cool) are greater for boys than for girls.[7]

The Experiences and Challenges of Girls and Young Women

As girls grow and develop, the transitions into adolescence and early adulthood--occurring when entering middle or junior high school,[*] entering and graduating from high school or college or entering the workforce--frequently involve many changes in social and physical environment that influence the risk of unhealthy behaviors.[9] (Table 2.1)

Some aspects of these transitions appear to affect girls and young women differently than boys and young men as they form attitudes, beliefs and habits that can influence their use of cigarettes, alcohol and drugs. These critical transitions also can be highly stressful.[10] If girls have not learned effective ways to deal with the stress, they may turn to tobacco, alcohol and drugs.

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[*] The education and research literatures are not entirely consistent with regard to their use of the terms "middle school" versus "junior high school" when referring to the grades between elementary and high school. Generally, the grades encompassed by these terms vary from school to school. For the sake of simplicity, we use the term "middle school" in this report to refer roughly to the fifth through eighth grades.

Table 2.1
Stages of Development

***Early Adolescence*[11] (middle school age)**

- Girls show physical signs of development (growth, sexual development) sooner than boys.
- Girls struggle with sense of identity.
- Girls feel awkward or strange about themselves and their bodies.
- Girls show concerns regarding physical and sexual attractiveness to others.
- Girls' interests and preferences begin to be influenced by the peer group.

***Middle Adolescence*[12] (high school age)**

- Girls show greater self-involvement and alternate between unrealistically high expectations and a poor self-concept.
- Girls become extremely concerned with appearance and with their own bodies.
- Girls show increasing concern about sexual attractiveness.
- Girls have frequently changing relationships.
- Girls place great emphasis on their peer group with the group identity of selectivity, superiority and competitiveness.
- Girls show a lowered opinion of parents and tend to withdraw emotionally from them.

***Later Adolescence and Early Adulthood*[13] (post high school age)**

- Girls begin to show a firmer and more cohesive sense of identity.
- Girls have increased independent functioning and self-reliance.
- Girls have an increased ability to delay gratification and show increased emotional stability.
- Girls have greater concern for the future and capacity for setting goals.
- Girls' peer relationships remain important, but take an appropriate place among other interests.
- Girls' conflicts with parents begin to decrease.
- Girls' social and cultural traditions regain some of their previous importance.

Preadolescence

Girls who are eight- to 11-years tend to be relatively strong, self-confident and outspoken[14] and at less risk for substance use. They engage in activities that interest them without much concern for the gender-appropriateness of those activities.[15]

Adolescence

Early Adolescence. The transition to middle school typically is accompanied by visible signs of puberty among girls--including rapid growth, weight gain and development of sex characteristics.[16] Puberty is a time of higher risk for girls than boys since these changes for boys tend to emerge once boys have had time to adjust to the middle school transition.[17] At this stage, girls are likelier than boys to compare themselves physically and academically to their new peers,[18] increasing the doubts they feel about themselves.[19]

Perhaps as a means of managing these emerging challenges, girls begin to become more sensitive to others' feelings and reactions, gauging their personalities, predicting their reactions and attempting to respond accordingly.[21] Thus begins a pattern in which girls and women suppress their own thoughts and desires in favor of those of others,[22] making them more vulnerable to peer influences to engage in substance use.

> *Girls today .... are coming of age in a more dangerous, sexualized and media-saturated culture. They face incredible pressures to be beautiful and sophisticated, which in junior high means using chemicals and being sexual. As they navigate a more dangerous world, girls are less protected.*[20]
>
> --Mary Pipher, Ph.D., Author,
> *Reviving Ophelia: Saving the*
> *Selves of Adolescent Girls*

Middle Adolescence. During middle adolescence, girls and boys make yet another transition from middle school to high school.[23] Teenagers strive to develop a unique identity and at the same time feel the need to conform to their peer group.[24] Pressure on girls of this age to project a more feminine image is associated in some girls with less satisfaction with their physical appearance, increased depression, lower self-esteem and decreased academic success[25]--any of which can increase their risk for substance use.

Late Adolescence. Later adolescence is a time when girls and boys seek greater autonomy from parents and begin to form visions of their own future goals.[26] Young women (and men) who enter college after high school may use their newfound independence to engage in behavior that they were unable to pursue under the watchful eyes of their parents and high school teachers.[27]

Early Adulthood

After college or upon entry into the workforce, young women (and men) are faced with the stress of pursuing their careers. Although tremendous progress has been made in ensuring a work environment free of gender-based discrimination and bias, young women in certain careers still face such biases, albeit typically in more subtle forms than in the past. Many young women also begin to face the pressures of balancing their career goals with their family and relationships. How a young woman copes with these adulthood pressures will influence whether or not she turns to substance use.

CASA's National Survey of Girls and Young Women

CASA conducted a two-part national survey to capture the role of emerging attitudes, beliefs, behaviors and life circumstances on female substance use during the critical formative years of childhood, adolescence and young adulthood. (See Appendix A, Survey Methodology and Appendix B, Survey Instrument.)

The survey instrument was administered to girls and young women going through key transitional life phases that are believed to significantly affect their exposure and vulnerability to substance abuse:

(1) elementary school to middle school (fifth to sixth grade);

(2) middle school to high school (eighth to ninth grade);

(3) senior year of high school to freshman year of college (including young women, ages 21 and 22, who did not attend college); and

(4) senior year of college to first year post-college (including young women, ages 21 and 22, who did not attend college).

Each group was interviewed once prior to the transition and once after the transition, with a six-month interval between interviews.

The survey examined girls':

- substance use attitudes, beliefs and behaviors;
- personal characteristics, including self-image, depressive symptoms, plans for the future, coping mechanisms, religion and spirituality;
- peer relations and perceptions of peer influence; and
- family relationships and parental involvement.

The survey results provide extraordinary insight into the characteristics, beliefs and attitudes of girls and young women that influence their likelihood of substance abuse. Key findings from CASA's *Formative Years* survey are discussed throughout this report.

CASA's Interviews With Preadolescent Girls and Their Parents

Prior to conducting CASA's *Formative Years* survey, a series of focus groups with preadolescent girls and their parents was conducted to examine their attitudes, beliefs and behaviors regarding substance use. (See Appendix C, Focus Group Methodology and discussion guides.)

Though few of the girls who were interviewed had experimented with tobacco, alcohol or drugs, the thoughts and opinions of these girls and their parents suggest key opportunities for early intervention to help prevent smoking, drinking and drug use among girls and young women. Key findings from this research also are presented throughout this report.

Chapter III
The Narrowing of the Gender Gap: Equal Use, Unequal Consequences

More than 4.4 million women are alcoholics or abuse alcohol; more than two million use illegal drugs; more than 31 million smoke.[1] By the time they graduate high school, 61.6 percent of girls have smoked cigarettes, 77.9 percent have used alcohol and 38.4 percent have smoked marijuana.[2] Middle school girls now smoke cigarettes at nearly identical rates as boys (nine percent vs. 10 percent)[3] and the same is true for high school girls and boys (27.7 percent vs. 29.2 percent).[*][4] High school girls drink alcohol at rates close to those of boys (45 percent vs. 49.2 percent) and rates of drinking among the youngest high school girls and boys--ninth graders--are even closer (40 percent vs. 42.2 percent).[5] Girls use drugs such as painkillers[†] (8.7 percent vs. 7.3 percent), stimulants[‡] (4.6 percent vs. 3.4 percent) and tranquilizers[§] (2.7 percent vs. 2.1 percent) for nonmedical purposes at slightly higher rates than boys.[6] High school girls are almost as likely as boys to use cocaine (3.7 percent vs. 4.7 percent) and inhalants (4.2 percent vs. 5.1 percent) but these girls use marijuana at lower rates than boys (20 percent vs. 27.9 percent).[7]

Equal use does not translate into equal consequences. Females experience physical, psychological and social consequences from smoking, drinking and using drugs, many of which are different from or more severe than those experienced by male substance users. For instance, at the same levels of use, females are more likely to become dependent on tobacco[8] and more intoxicated from drinking[9] than males and are more vulnerable to alcohol-induced brain damage[10] and other substance-related problems than males. Females with substance use disorders are likelier than males to have co-occurring mood or anxiety disorders.[11]

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[*] See Appendix D for descriptions of national surveys that provide data on rates of youth substance use.
[†] e.g., Percocet, Vicodin, Oxycontin
[‡] e.g, Benzedrine, Ritalin, Dexedrine
[§] e.g., Klonopin, Xanax, Valium

Narrowing the Gender Gap in Substance Use

Trends in Substance Use

During the past decade, rates of smoking, drinking and illicit drug use among girls and boys increased early in the decade, peaked in the mid-1990s and then stabilized after a slight decline.[12] More recent national data indicates that rates once again may be inching downward.[13]

Among younger students (eighth and tenth graders), girls consistently demonstrate higher rates of using drugs (other than marijuana) than boys; however, among older students (twelfth graders), the pattern reverses with boys consistently demonstrating higher rates of drug use than girls.[14] This pattern appears to be due to boys' consistently higher rate of marijuana use coupled with a larger jump in illicit drug use in the later years of high school compared to girls. Girls' illicit drug use (other than marijuana) generally stabilizes in later high school.

Since 1979, females have generally started using tobacco, alcohol and marijuana at a later age than males.[15] The average age of initiation of tobacco use has remained relatively stable for females but increased for males. The average age of initiation of alcohol use has decreased somewhat for females and remained relatively stable for males. The average age of initiation of marijuana use has declined for both females and males but at a slightly faster rate in recent years for males.[16]

Tobacco[*]

Current[†] smoking rates among middle school students are nearly identical for girls (nine percent) and boys (10 percent).[17] Many girls and boys have smoked their first cigarette before entering high school: 19.8 percent of female high school students and 24.5 percent of male high school students report smoking a whole cigarette before age 13 years.[18]

Younger girls are likelier than older girls to report having initiated smoking at an early age: 23.9 percent of ninth-grade girls vs. 17.5 percent of twelfth-grade girls report having smoked a whole cigarette before age 13.[19]

Overall, among high school students, teenage girls and boys smoke cigarettes at comparable rates (27.7 percent of girls vs. 29.2 percent of boys are current smokers).[20] In ninth grade, smoking rates are essentially the same for girls and boys (23.6 percent vs. 24.3 percent). In tenth grade, girls' smoking rates exceed that of boys (28.4 percent vs. 25.4 percent).[21] However, the gender gap is wider in the eleventh and twelfth grades, with boys smoking at slightly higher rates than girls.[22] (Figure 3.A)

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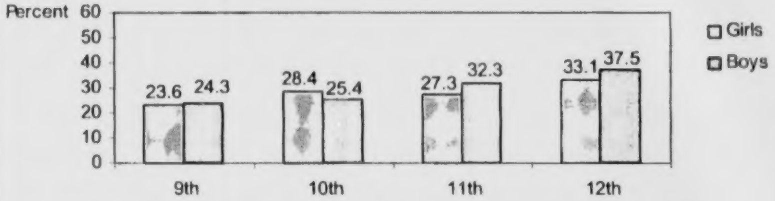
[*] Substance use prevalence rates reported in this chapter are derived primarily from the 2001 Youth Risk Behavior Survey (YRBS). Several national surveys other than the YRBS provide information on youth substance use (see Appendix D). Although all self-report national surveys of substance use underestimate such use--particularly among youth--after an extensive comparison of these surveys, CASA has concluded that the YRBS comes closest to providing the most accurate estimates of substance use among youth. For example, unlike the YRBS, the NHSDA is based on personal interviews performed in a household and children are only interviewed when a parent is in the home, increasing the likelihood that they will underreport risky behaviors such as substance use. Also unlike the YRBS, the MTF survey is not anonymous, reducing the likelihood that respondents will provide accurate answers to questionnaire items. For these reasons, CASA uses the data from the YRBS whenever possible in presenting current prevalence estimates. (Exceptions include trend data and college-age data for which we use the MTF survey, and prescription drug abuse, dependence and treatment data for which we use the NHSDA. The YRBS does not have data on these variables.)

[†] At least once in the past 30 days.

Figure 3.A

Rates of Current Smoking Among Girls and Boys in High School



Source: Centers for Disease Control and Prevention. (2002).

Although a surprisingly high proportion of high school girls report smoking cigars in the past month, high school boys are significantly more likely than girls to do so (22.1 percent vs. 8.5 percent).[23]

Female and male college students smoke cigarettes at similar rates (26.5 percent vs. 24.6 percent).[24] However, male college students are likelier than female college students to consume tobacco through cigars, smokeless tobacco and pipes.[25]

Alcohol

Approximately one-third of all girls and boys had their first alcoholic drink[*] before entering high school: 24.2 percent of female high school students and 34.2 percent of male high school students report drinking alcohol before age 13.[26]

Nearly twice as many younger girls as older girls report initiating alcohol use before age 13 (34.5 percent of ninth grade girls compared to 17.5 percent of twelfth grade girls).[27]

Younger girls and boys have more similar drinking rates than older girls and boys. Rates of current alcohol use are nearly identical among female and male ninth graders (40 percent vs. 42.2 percent), but diverge among eleventh grade girls and boys (45.1 percent vs. 53.6 percent). The gap in drinking rates appears to shrink again in the senior year of high school (53.9 percent vs. 56.6 percent).[28]

A similar pattern exists for binge drinking.[†] Overall, male teens are more likely to binge drink than female teens (33.5 percent vs. 26.4 percent).[29] While this gender gap is small among younger teens (23 percent of girls and 26.2 percent of boys in the ninth grade report binge drinking), twelfth grade males are significantly likelier to binge drink than twelfth grade females (42 percent vs. 31.8 percent).[30] It is important to note that unlike other studies for which the definition of binge drinking reflects gender differences in rates of alcohol metabolism--defining binge drinking for women as four drinks per occasion rather than five--the *Youth Risk Behavior Survey* (from where these data are derived) does not make this distinction. Therefore, the functional amount of binge drinking among females is even closer to that of males than the above-mentioned rates suggest.

College women report somewhat lower rates than college men of current alcohol use (64.6 percent and 70.4 percent) and recent[‡] binge drinking (36 percent vs. 48.1 percent).[31]

Illicit Drugs

High school girls are almost as likely as boys to be current users of cocaine (3.7 percent vs. 4.7 percent) and inhalants (4.2 percent vs. 5.1 percent)[32] and less likely than boys to be lifetime users of heroin (2.5 percent vs. 3.8 percent), methamphetamine (9.2 percent vs. 10.5 percent) or illegal steroids (3.9 percent vs. 6.0 percent).[33] High school girls use marijuana at lower rates than boys (20 percent vs. 27.9 percent).[34]

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[*] More than a few sips.

[†] Binge drinking, or "episodic heavy drinking," is defined by the YRBS as drinking five or more drinks of alcohol on one or more occasion in the 30 days preceding the survey.

[‡] Past two weeks.

Like smoking and drinking, more younger than older girls report an early age of initiation of marijuana use: 8.6 percent of ninth grade girls versus 5.3 percent of twelfth grade girls report trying marijuana before age 13.[35]

Male college students report slightly higher rates than female college students of current marijuana (22.7 percent vs. 18.5 percent) and cocaine (2.5 percent vs. 1.6 percent) use, whereas females report slightly higher rates of inhalant (0.5 percent vs. 0.1 percent) and Ecstasy (1.7 percent vs. 1.2 percent) use.[36]

Prescription Drugs

CASA's analysis of data from the *1999 National Household Survey on Drug Abuse (NHSDA)* found that teenage girls, ages 12 to 17, are slightly likelier than teenage boys to have used certain prescription drugs for nonmedical reasons, including painkillers (8.7 percent vs. 7.3 percent), stimulants (4.6 percent vs. 3.4 percent) and tranquilizers (2.7 percent vs. 2.1 percent) in their lifetimes.[*] [37] Girls of this age also are likelier than boys to use psychotherapeutic drugs for nonmedical purposes.[38] This is of serious concern since females are almost twice as likely as males to become addicted to certain forms of these drugs, such as sedatives, hypnotics or anti-anxiety drugs.[39] There also is some evidence that teenage girls are likelier than boys to use over-the-counter drugs to get high.[40] Among young adults, age 18- to 23-years, fewer young women than young men report nonmedical use of painkillers (14.1 percent vs. 16.7 percent), stimulants (8.3 percent vs. 10.2 percent) and tranquilizers (7.0 percent vs. 9.2 percent).[41]

Alcohol and Drug Abuse/Dependence and Treatment

Teenage girls and boys (ages 12 to 17) are about equally likely to report past year alcohol abuse or dependence[†] (5.1 percent vs. 5.2 percent), illicit drug abuse or dependence (4.1 percent vs. 4.8 percent) and receiving substance abuse treatment (1.3 percent vs. 1.8 percent).[42] In young adulthood (age 18 to 25), men are likelier than women to report alcohol abuse or dependence (16.8 percent vs. 8.8 percent), illicit drug abuse or dependence (6.9 percent vs. 4.0 percent) and having received substance abuse treatment (2.8 percent vs. 1.1 percent).[43]

Racial and Ethnic Differences in Substance Use Among Girls and Young Women

Black girls smoke, drink and use drugs at lower rates than white or Hispanic girls.[‡] [44] Although national data paralleling that of white, Hispanic and black girls are not available for Native American or Asian-American girls, some studies find that Native American girls are more likely to smoke and use marijuana than girls from other racial and ethnic groups,[45] and that Asian-American girls are less likely than white or Hispanic girls to smoke, drink or use drugs.[46]

Tobacco

Among high school students, white girls (31.2 percent) are more likely than Hispanic girls (26.0 percent) to report current cigarette smoking and both groups are significantly more likely than black girls to do so (13.3 percent).[47] (Table 3.1) Black girls also initiate tobacco use significantly later than girls of other backgrounds.[48] While 21.2 percent of white and 20.6 percent of Hispanic female high school students report smoking a full cigarette before the age of 13, only 12.4 percent of black female high school students report doing so.[49] Unlike cigarette smoking, Hispanic and black girls are likelier than white girls to report current cigar smoking (11.5 and 8.6 percents vs. 7.7 percent).[50]

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[*] Because the YRBS does not provide estimates of prescription drug misuse, CASA analyzed data from the NHSDA to obtain these estimates.

[†] Defined by the NHSDA according to DSM-IV criteria.

[‡] Throughout this report, we use the terms "black" and "Hispanic" rather than "African-American" or "Latino/Latina" to be consistent with the terminology of the YRBS from where much of this data is derived.

Alcohol

White and Hispanic girls are likelier than black girls to be current alcohol users (48.3 percent and 48.8 percent vs. 30.6 percent) and to engage in binge drinking (30.5 percent and 28.7 percent vs. 7.5 percent).[51] (Table 3.1) The relatively lower rates of alcohol use among Asian-American youth[52] has been attributed to lower levels of exposure to risk factors for alcohol use rather than to lower levels of susceptibility to pressures to use alcohol.[53] Some researchers have postulated that Asian-American teens' strong commitment to academic success and their tendency to spend relatively less time with peers also serve to protect them from higher rates of substance use.[54]

Table 3.1

Racial/Ethnic Differences in Percent of High School Girls Engaging in Current Substance Use

	Tobacco Use	Alcohol Use	Binge Drinking	Marijuana Use	Cocaine Use	Inhalant Use
White	31.2	48.3	30.5	20.6	3.9	4.5
Hispanic	26.0	48.8	28.7	22.4	5.9	4.8
Black	13.3	30.6	7.5	16.0	0.4	2.6

Source: Centers for Disease Control and Prevention. (2002). Youth risk behavior surveillance--United States, 2001. Morbidity and Mortality Weekly Report (MMWR), 51(SS-4). (Tables 14, 20, 22)

Illicit and Prescription Drugs

White and Hispanic girls are likelier than black girls to report using illicit drugs, including marijuana, cocaine and inhalants.[55] (Table 3.1)

According to CASA's analysis of data from the *1999 National Household Survey on Drug Abuse (NHSDA)*, Asian-American girls (ages 12 to 17) are less likely than white, Hispanic and black girls to report the nonmedical use of painkillers (3.7 percent vs. 8.9, 9.2 and 8.5 percents, respectively) and tranquilizers (0.3 percent vs. 3.3, 1.6 and 1.4 percents, respectively). Black girls are less likely than white, Hispanic and Asian-American girls to report the nonmedical use of stimulants (1.5 percent vs. 5.6, 3.5 and 2.3 percents, respectively).[56] Among young adult women (ages 18 to 23) whites and Hispanics are likelier than Asian-Americans or blacks to report the nonmedical use of painkillers (16 and 11.7 percents vs. 9.1 and 8.7 percents) and tranquilizers (8.8 and 4.9 percents vs. 1.4 percent and 1.8 percents). Whites, Hispanics and Asian-Americans are likelier than blacks to report the nonmedical use of stimulants (10.2, seven and 5.9 percents, respectively, vs. 1.6 percent).[57]

Risky Transitions

Of all the transitions examined in CASA's *Formative Years* survey,[*] the greatest increase in smoking, drinking and marijuana use was found during the transition from high school to college. The greatest decline in drinking and marijuana use--but not smoking--was found during the transition out of college and into early adulthood.

Tobacco

Girls who use tobacco in elementary school are nearly three times likelier to smoke once they reach middle school (two or three years later) than those who do not smoke in elementary school.[†] [58] As girls progress from ninth through twelfth grades, the percent who smoke increases by 40 percent from 23.6 percent in the ninth-grade to 33.1 percent in the twelfth grade.[59] High school senior girls who do not plan to go on to college are more likely to smoke cigarettes than those with college plans.[60] CASA's *Formative Years* survey found that the greatest increase in smoking frequency among girls and young women takes place during the transition from high school to the first year of college. (Figure 3.B[‡])

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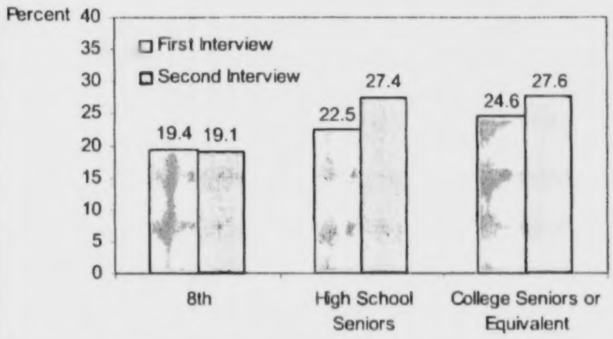
[*] Over a six month interval between interviews.

[†] A similar, but even larger effect was found for boys.

[‡] Unless otherwise indicated, all Figures are based on analyses of CASA's *Formative Years* survey.

Figure 3.B

Changes Across Transitions in Average Number of Days Girls Smoked in Past Month



College surveys find that among female students, nearly one in four (24.6 percent) has gotten drunk three or more times in the past 30 days--a number 30 percent higher than just 10 years ago (18.9 percent).[64] There also has been an increase in frequent binge drinking among college women over the past 10 years, with a particularly sharp increase among students attending all-women's colleges (from 5.3 percent in 1993 to 11.9 percent in 2001).[65] Young women who belong to sororities are more likely to drink than those who do not.[66]

Alcohol

Girls who drink alcohol in elementary school are over four times likelier than other girls to use alcohol once they reach middle school (two or three years later).[61] No such relationship between alcohol use in elementary and middle school is found for boys.[62] Similar to boys, alcohol use among girls increases as they progress through high school, with 40 percent of ninth-grade girls reporting current alcohol use compared to 53.9 percent of those in the twelfth grade.[63]

CASA's *Formative Years* survey found that the greatest increases in alcohol use and binge drinking took place during the transition from high school to college. Girls in our survey drank more and on more days and reported binge drinking more frequently in their freshman year of college* than they did in their senior year of high school. The greatest decline in alcohol use and binge drinking occurred among young women transitioning from their senior year in college to their first year post-college.

Illicit Drugs

Marijuana use among high school girls (and boys) increases as they progress through high school, with 16.5 percent of ninth grade girls reporting current marijuana use compared to 21.8 percent of twelfth grade girls.[67] However, the biggest jump occurs in the tenth grade (21.5 percent) and remains relatively stable through the remainder of high school.[68] Rates of current cocaine use among girls remain consistent throughout high school (3.6 percent in the ninth grade and 3.7 percent in the twelfth grade), whereas inhalant use declines (from 6.4 percent in the ninth grade to 2.5 percent in the twelfth grade).[69]

CASA's *Formative Years* survey found that the transition from high school to college brings the greatest increase in initiation of illicit drug use among girls. For marijuana use specifically, girls transitioning into college from high school show the greatest increase in marijuana use while young women transitioning out of college show the greatest decline in marijuana use.

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* Or, the age equivalent for noncollege attending women. Note that because of limitations on the sample size, separate analyses were not conducted on young women who went on to college vs. those who did not.

The Caffeine Connection

In recent years, researchers have begun to examine caffeine use in children, particularly with regard to its addictive properties and its potential relationship to the use of other addictive substances. Although the findings are preliminary, they represent an important area of research because of the tremendous popularity of caffeinated drinks among young people and the fact that caffeine typically is the first substance with psychoactive effects that is ingested by children and the only known addictive substance legally sold (and aggressively marketed) to youth. For example, Mountain Dew, which contains one of the highest concentrations of caffeine of any soft drink,[70] markets itself with the slogan, "feel the rush." Dr. Pepper, frequently advertised as the "friendly pepper upper," also contains one of the highest concentrations of caffeine.[71] These drinks, along with others with names like "Surge," "Jolt" and "Red Bull" are being marketed as high intensity drinks specifically designed to enhance power and energy. Furthermore, popular coffee houses such as Starbucks have been selling an increasing array of highly sweetened and caffeinated frozen drinks, which include espresso, whipped cream and chocolate syrup.

The link between caffeine consumption and the use of other substances is just now beginning to emerge. One study of teens, ages 13 to 17, found preliminary evidence that those diagnosed with nicotine or drug dependence report significantly greater caffeine consumption than nondependent teens.[72] Because smoking accelerates the metabolism of caffeine, smokers may consume more caffeine than nonsmokers.[73] Studies of animals suggest that caffeine may enhance the subjective effects of nicotine and certain drugs.[74]

CASA's *Formative Years* survey found that girls who drink coffee are significantly likelier to be smokers than girls who do not drink coffee (23.2 percent vs. 5.1 percent). Girls and young women who drink coffee hold significantly more favorable attitudes toward alcohol and are likelier to report ever consuming alcohol than those who do not drink coffee (69.8 percent vs. 29.5 percent).

Girls in the sixth and ninth grades (the youngest two cohorts)* who drink coffee are significantly less likely than noncoffee drinkers to believe that someone who drinks coffee would eventually smoke cigarettes. At the same time, these girls are significantly more likely to be smokers themselves. Young women in the older two cohorts (freshmen in college and first year post-college) who report drinking coffee smoke and drink more than girls who never drink coffee and began smoking and drinking at a younger age.

Prevalence of Substance Use: CASA Survey Findings

- During the transition from high school to college, young women report the greatest increase in smoking, alcohol use, binge drinking and marijuana use.
- Young women transitioning out of college experience the greatest decline in alcohol use, binge drinking and marijuana use.
- Girls who drink coffee are significantly likelier to be smokers than girls who do not drink coffee (23.2 percent vs. 5.1 percent).
- Girls and young women who report drinking coffee are likelier to report alcohol consumption than those who do not drink coffee (69.8 percent vs. 29.5 percent).
- Older girls and young women who report drinking coffee began smoking cigarettes and using alcohol at an earlier age and use more of these substances than girls who do not drink coffee.

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* Caffeine-related questions were only included in the second interview.

Prevalence of Substance Use: Other Key Findings

- The gender gap that historically existed between male and female substance use is all but nonexistent among young teens:
    - 27.7 percent of high school girls and 29.2 percent of high school boys smoke;
    - 40 percent of ninth grade girls drink alcohol compared to 42.2 percent of ninth grade boys;
    - 8.7 percent of high school girls misuse painkillers compared to 7.3 percent of high school boys.
- Girls are beginning to smoke, drink and use marijuana at younger ages:
    - 23.9 percent of ninth grade girls versus 17.5 percent of twelfth grade girls report having smoked a whole cigarette before age 13;
    - 34.5 percent of ninth grade girls compared to 17.5 percent of twelfth grade girls report having tried alcohol before age 13;
    - 8.6 percent of ninth grade girls vs. 5.3 percent of twelfth grade girls report trying marijuana before age 13.

Consequences of Substance Abuse Among Girls and Young Women

Girls are More Vulnerable Than Boys to Many of the Health Effects of Substance Use

Substance-abusing girls report significantly more--and more severe--health problems than substance-abusing boys.[75] For example, girls have more substance-related hospital and physician visits than males, as well as other substance-related health problems that do not necessarily require such visits.[76]

In addition to reporting actual health problems, girls tend to perceive their own general health as worse than males, particularly if they use substances frequently and in large quantities.[77] While boys generally give higher ratings of their own health compared to girls, this gender gap in self-perceived health widens at increasing levels of substance use frequency and intensity, with girls' self-ratings becoming progressively worse than boys' self-ratings.[78] This gender discrepancy in perceptions of health might be due to the fact that females do indeed experience more severe health effects from substance use than males.[79] It also is possible that girls are more attuned and responsive to the health effects of substance use than boys or generally more pessimistic about their health than boys.[80]

A study conducted in Washington State found that teenage girls were 2.5 times likelier than teenage boys to be admitted to a hospital due to acute intoxication (poisoning), mostly resulting from suicide attempts and mostly from misusing medications, such as acetaminophen (Tylenol) or antidepressants.[81]

Tobacco. Females are more vulnerable than males to many of the physiological effects of smoking.[82] Females typically smoke cigarettes with lower nicotine content, smoke in lower quantities and inhale less deeply than males, yet females who smoke are as likely as males to become addicted to nicotine.[83] Compared to males, females experience higher rates of nicotine dependence at the same level of use; compared to adults, adolescents experience higher rates of nicotine dependence at the same level of use.[84] These findings suggest differences in women and adolescents' sensitivity to nicotine.[85]

Girls may develop symptoms of nicotine dependence even faster than boys.[86] A study of seventh grade students found that, at the same level of use, it took approximately three weeks for girls to become dependent on nicotine from the time they began smoking monthly, whereas it took approximately 26 weeks for boys to become dependent.[87]

> *Clearly, smoking-related disease among women is a full-blown epidemic.*[88]
>
> –David Satcher, M.D., Ph.D.
> Former Surgeon General

Smoking during the teen years is related to poorer overall health.[89] Thirty percent of girls and 23 percent of boys who are daily smokers report poor health (compared with eight percent and six percent of nonsmoking girls and boys).[90] Girls (and boys) who engage in daily smoking perceive their health as significantly poorer than those who do not and report more respiratory symptoms, headache, neck and shoulder pain, stomachache, nausea, nervousness, restlessness and sleep problems.[91] CASA's analysis of data from the *National Longitudinal Study of Adolescent Health* revealed that, although most girls generally report perceiving their health to be fairly good, those who smoked more frequently were likelier to rate their overall health less positively a year or two later than those who had smoked less or not at all.[92]

Smoking appears to impair lung functioning in girls more than it does in boys.[94] One study found that rates of wheezing are higher among girls than boys at all levels of smoking.[95]

Girls who smoke have poorer nutrition than those who do not smoke. They eat fewer vegetables, fruits and dairy products and consume more food that is high in saturated fat.[96] People who smoke also consume less dietary fiber, iron, calcium, beta-carotine, folate and vitamins C and E--all essential elements of a nutritious diet--than do nonsmokers.[97] Smoking among white teenage girls also is associated with significant decreases in exercise and physical activity.[98]

Cigarette smoking uniquely affects females in that it may interfere with normal menstrual function, increasing the risks for dysmenorrhea (painful menstruation) and menstrual irregularity.[99] Oral contraceptives increase the risk of coronary heart disease among females who smoke.[100] This is particularly alarming given the fact that nearly 40 percent of teenage girls who use oral contraception smoke cigarettes compared to 25 percent of girls who do not use oral contraception.[101] Cigarette smoking also has been found to hasten the onset of menopause by as much as one year due to its adverse effects on estrogen.[102]

In 1987, lung cancer, which was once uncommon among women, surpassed breast cancer as the leading cause of cancer-related death among women.[103] A recent study suggests that the risk for breast cancer substantially increases for women who began smoking early in adolescence.[104] Premenopausal women who began smoking within five years of their first menstrual period and before their first pregnancy had a significantly increased risk of breast cancer.[105] This may be because developing breasts are highly sensitive to carcinogens, and breast development is greatest during puberty and early adolescence.[106]

> *The smoking teenager on the Pill is at the same risk for heart disease and blood clots as a mature woman in her thirties or forties. By smoking, the girl gives up the advantage of her age.*[93]
>
> --Ralph I. Lopez, M.D., Author
> *The Teen Health Book: A Parents' Guide to Adolescent Health and Well-Being*

Finally, quitting smoking may be even more difficult for females than it is for males.[107]

Alcohol. Although research on the specific physiological effects of alcohol use on girls and young women is limited, females in general are more vulnerable than males to the development of certain alcohol-related problems, even at the same levels of consumption.[108] Because women have lower water and higher fat contents than men of similar size, they maintain higher concentrations of alcohol in their blood and become more impaired after drinking the same amount of alcohol as men.[109] Women also metabolize alcohol less efficiently than men because the primary enzyme involved in the metabolism of alcohol is less active in women's stomachs than in men's.[110] Therefore, the effects of one alcoholic drink on females are roughly equivalent to the effects of two alcoholic drinks on males.[111]

Like girls who smoke, those who drink have a poorer perception of their own health, as well as poorer actual health compared to their peers who drink less or not at all.[112] CASA's analysis of data form the *National Longitudinal Study of Adolescent Health (Add Health)* revealed that girls who reported more frequent or intense alcohol use were likelier to rate their overall health less positively a year or two later than those who drank less or not at all.[113]

Some of the difference in reported health problems between alcohol-abusing teens and nonalcohol-abusing teens may be linked to factors such as anxiety and depression, which are associated with teen alcohol abuse[114] and which are more prevalent among girls than boys.[115] Nevertheless, physical exams do indicate that teens with alcohol use disorders have poor health maintenance behaviors, including poorer oral hygiene.[116] Teens with alcohol use disorders also report sleep difficulties, chest discomfort, breathing symptoms and abdominal complaints.[117]

Females who drink regularly generally experience an accelerated development of alcohol-related problems compared to males, known as a "telescoping effect."[118] This may be due to their different physiological reactions to alcohol or to differences in societal expectations regarding appropriate male and female levels of alcohol use.

Women often are more susceptible to the development of alcohol-related medical disorders, such as liver disease (hepatitis, cirrhosis),[119] cardiac problems[120] and brain impairment[121] than their alcohol-abusing male counterparts. Alcoholic women have been found to demonstrate similar rates of alcohol-related cardiac disease as alcoholic men, even after drinking less alcohol.[122] Among young women, the risk of hypertension is increased 44 percent among those who drink more than 1.5 drinks per day at least five days per week.[123] Women also are more susceptible to the development of alcohol-related liver disease over a shorter period of time and after consuming less alcohol.[124] This greater susceptibility to alcohol-related liver disease may relate to estrogen, the female reproductive hormone.[125]

Alcohol, particularly wine, appears to prompt asthma attacks more often in women than in men.[126] Moderate to heavy alcohol consumption also increases women's risk for breast cancer.[127] An analysis of multiple large-scale studies found that women who consumed, on average, two to five drinks per day had a 41 percent higher risk of breast cancer compared to nondrinking women.[128]

Menstrual disorders have been linked to chronic heavy drinking.[129] During menstruation, fluctuations in gonadal hormone levels may affect the rate of alcohol metabolism, making women more susceptible to elevated alcohol concentrations at certain points in their menstrual cycle.[130] Even moderate alcohol use can contribute to infertility in women, with increasing alcohol consumption related to an increased risk of infertility.[131]

> *More research every day is showing gender differences in how women respond to alcohol. Every organ and cause of death that we look at suggests women are more susceptible and die at greater rates than men do.*[132]
>
> --Mary Dufour, M.D., M.P.H., Deputy Director
> National Institute on Alcohol Abuse and Alcoholism

Illicit Drugs. Research regarding the unique effects of illicit drug use on the health of girls and young women is scarce.

CASA's analysis of data from the *National Longitudinal Study of Adolescent Health (Add Health)* revealed that girls who reported more frequent marijuana use during the first interview were likelier to rate their overall health less positively one to two years later than those who reported less or no marijuana use.[133]

For both females and males, chronic marijuana smoking can lead to many of the same respiratory problems as tobacco smoking, including daily cough and phlegm, symptoms of chronic bronchitis, more frequent chest colds and several forms of cancer.[134] Prolonged marijuana use can lead to abnormal lung functioning.[135] In fact, the amount of tar inhaled by marijuana smokers and the level of carbon monoxide absorbed are three to five times greater than among tobacco smokers, probably because marijuana users inhale more deeply than tobacco smokers, holding the smoke in the lungs, and because marijuana smoke is unfiltered.[136] Marijuana use also can impair attention and short-term memory and distort perception and judgment.[137]

Chronic, heavy, recreational use of Ecstasy increases the risk of sleep disorders and may increase the risk of memory- and attention-related cognitive deficits.[138] Females have been found more susceptible than males to brain damage from heavy use of Ecstasy.[139] One explanation is that amphetamines, like Ecstasy, leave the body more quickly in the presence of testosterone, which is lower in women than men.[140] The difference also may be due to gender differences in the shape and size of certain brain structures.[141]

Recent research suggests that teenage girls are likelier than teenage boys to be dependent on cocaine.[142] In this study, 22.3 percent of female adolescents who reported using cocaine in the past year had symptoms of cocaine dependence compared to 4.6 percent of male adolescents.[143] Furthermore, adolescent girls are significantly more sensitive than adult women to cocaine dependence (22.3 percent vs. 16.3 percent), even at relatively low rates of use.[144]

Although women may be more sensitive to the cardiovascular effects of cocaine than men, women show cognitive impairments from long-term cocaine use that are similar to men.[145] Cocaine-abusing women also are less likely than men to show blood flow abnormalities in the brain.[146] One study found that during certain phases of a woman's menstrual cycle (i.e., before and after ovulation), women are less sensitive to the effects of cocaine than are men.[147] Although researchers administered equivalent doses of cocaine to the men and the women in the study, the women had lower levels of the drug in their blood.[148] One explanation for these differences is that cocaine is metabolized more quickly in women than in men.[149] Second, women are less sensitive to snorted cocaine during certain phases of their menstrual cycle (i.e., the luteal phase) when an increase in certain hormones causes the mucous membranes that line the nasal passageway to secrete more mucous, acting as a barrier to the absorption of cocaine.[150]

Substance Use-Related Health Consequences

Increased Risks for Females

Smoking:

- Become addicted to nicotine at lower levels of use.
- Greater impairment of lung functioning.
- Greater difficulty quitting smoking.

Alcohol Use:

- Greater impairment after drinking the same amount of alcohol.
- Accelerated development of alcohol-related problems.
- Asthma attacks.
- Greater susceptibility to the development of alcohol-related medical disorders, such as liver disease, cardiac problems and brain impairment.

Drug Use:

- Greater likelihood of cocaine dependence.
- Greater susceptibility to brain damage from heavy use of Ecstasy.
- Greater likelihood of hospitalization from the nonmedical use of pain medications.

Unique Risks for Females

Smoking:

- Smoking interferes with normal menstruation.
- The risk of coronary heart disease is increased in smoking women who use oral contraceptives.
- The risk for breast cancer is increased in women who begin smoking in early adolescence.

Alcohol Use:

- Moderate to heavy alcohol consumption increases the risk for breast cancer.
- Heavy alcohol consumption increases the risk for menstrual disorders.
- Increases the risk of female infertility.

Substance Abuse Leads to Brain Damage

Women may be more vulnerable than men to alcohol-induced brain damage.[151] The magnitudes of differences in brain volumes between alcoholic and nonalcoholic females are greater than the magnitudes of the differences between alcoholic and nonalcoholic males.[152] In addition, alcoholic women have proportionally smaller brains after fewer years of heavy drinking than alcoholic men and this smaller brain volume appears in early middle age.[153] One study found the degree of brain shrinkage in alcoholic women and men to be similar even though women had significantly shorter drinking histories than men.[154] A small study of brain functioning during a memory task found that young women (ages 18 to 25) who were alcohol dependent had significantly less blood flow in parts of the brain related to cognitive function than healthy women, making the alcohol dependent women perform worse on the task.[155]

Women also appear to be more susceptible than men to the toxic effects of heavy Ecstasy use on the brain.[156] Even though men in one study had taken more Ecstasy, the women had lost significantly more brain cells.[157] Although the reason for this gender difference is not yet well understood, it may be due in part to hormonal differences between males and females or to gender differences in brain structure.[158]

Substance-Using Girls and Young Women Suffer From Cognitive Problems, Depression and Anxiety

In addition to the physical health threats associated with substance use, girls and young women who smoke, drink or use drugs put themselves at risk for a number of mental health problems.[159] Girls with substance use disorders demonstrate deficits in attention, abstract reasoning, problem-solving, judgment, motor regulation and constructive thinking.[160] They also are at increased risk for developing depression[161] and eating disorders.[162]

Tobacco. CASA's analysis of data from the *1999 Youth Risk Behavior Survey* found that high school girls who smoke are nearly twice as likely to report feeling depressed (sad or hopeless) as girls who never smoke (47 percent vs. 25.3 percent).[163] * At high doses, nicotine may have a depressive effect on the central nervous system, explaining in part the promising therapeutic effect of antidepressant medication on nicotine addiction.[164]

CASA's *Formative Years* survey found that girls who reported smoking at the time of the first interview (prior to the transition) were likelier to report being depressed six months later (after the transition) than girls who did not smoke at that time. This relationship remains statistically significant even after taking into consideration the girls' earlier levels of depression.[165]

Nondepressed teens who smoke are nearly four times likelier to develop depressive symptoms during the course of one year than nonsmokers.[166] Although in some cases depression may lead to smoking, smoking often precedes the onset of depression.[167]

Frequent smoking is related to an increased risk of panic attacks and panic disorder in young women (and men).[168] There is no evidence that panic attacks or panic disorder increase the risk of smoking; rather, smoking appears to precede these symptoms.[169] One possible explanation for this relationship is that smoking can affect breathing and cause lung problems, which can give the false sensation of suffocation, leading to panic attacks.[170]

Alcohol. CASA's *Formative Years* survey found that girls who reported ever drinking alcohol† at the time of the first interview (prior to the transition) were more likely to report being depressed six months later (after the transition) than girls who never drank.[171] This relationship was particularly strong among eighth grade girls. Eighth grade girls who reported ever drinking and those who reported drinking larger quantities of alcohol were significantly likelier to be depressed in the first year of high school than those who never drank or drank less alcohol. This relationship holds true even after taking into consideration the girls' earlier levels of depression.[172]

The more frequently a girl drinks or the larger the quantities of alcohol she drinks, the greater the likelihood that she will be depressed. CASA's analysis of data from the *1999 Youth Risk Behavior Survey* found that high school girls who reported current drinking or binge drinking were approximately twice as likely to report feeling depressed (sad or hopeless) as girls who never drank alcohol (38.7 percent, 43.8 percent, 20 percent, respectively).[173] The earlier girls initiate alcohol use, the likelier they are to report feeling sad or depressed. Whereas less than one-third of the girls (31.1 percent) who initiated alcohol use in their later teen years reported depressive feelings, half the girls (49.2 percent) who initiated alcohol use before age 13 did so.[174]

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* Because the YRBS data are not longitudinal, no causal relationship between substance use and depression can be inferred. It is not possible to determine from these findings the extent to which being depressed leads one to consume more substances of abuse or the extent to which being a substance user increases one's risk for depression.

† Defined as ever having more than a few sips of an alcoholic drink.

Many girls and young women drink alcohol to help reduce the anxiety associated with social events. However, alcohol itself does not work to reduce social anxiety. One study found that merely the belief that one has consumed alcohol makes an individual feel less anxious in social situations.[175]

Illicit Drugs. CASA's analysis of data from the *1999 Youth Risk Behavior Survey* found that whereas 29.7 percent of girls who never used marijuana reported feeling sad or hopeless, 42.9 percent of current marijuana users reported these depressive feelings.[176] As with alcohol, the earlier girls initiate marijuana use, the greater the likelihood that they report feeling sad or hopeless. Compared to the 38.8 percent of girls who initiated marijuana use in their late teens, 56.2 percent of those who initiated use before age 13 reported feeling sad or hopeless.[177] Similar results were found for girls who use other illicit drugs. That is, over half (52.5 percent) of the girls who report ever using illicit drugs have felt sad or hopeless in the past year compared to 31.1 percent of those who never used illicit drugs.[178]

Marijuana use during early adolescence increases the risk of anxiety and depression in late adolescence,[179] particularly for girls and young women.[180] One study found that teenage girls who used marijuana daily were at four times the risk and those who used marijuana weekly were at two times the risk of developing depression and anxiety in early adulthood compared to those who did not use marijuana.[181] These results were found even after taking into account other factors that relate both to marijuana use and depression or anxiety, including the use of other substances, parental separation and parental education levels.[182] This study found no link between earlier depression and anxiety and later marijuana use.[183] Illicit drug use is one of the strongest predictors among females of their having consulted a mental health professional in their lifetime.[184]

Substance Use Problems Often are Accompanied by Psychiatric Disorders

Certain psychiatric conditions, including mood disorders and eating disorders, coexist with substance abuse more often in females than in males.[185] Whereas males with substance use disorders are likelier to have co-occurring conduct or antisocial personality disorder, females with substance use disorders are likelier to have co-occurring mood or anxiety disorders.[186]

Mood and Anxiety Disorders. Among female alcoholics, 31 percent have a phobic disorder, 19 percent have major depression and seven percent have panic disorder; all of these disorders are more common in female alcoholics than male alcoholics.[187] Girls with alcohol use disorders have higher rates of anxiety disorders than boys with alcohol use disorders.[188] The progression from alcohol or drug initiation to the onset of a substance use disorder occurs more rapidly in depressed teens.[189] Children who develop mood disorders, such as bipolar disorder, during their teen years are almost nine times likelier to develop a substance use disorder compared to those whose mood disorder emerges earlier in childhood.[190] If girls who are depressed resort to substance use to alleviate their symptoms, the substance use itself can actually worsen, rather than help, their depressive symptoms.[191]

Behavior Disorders. Substance-abusing girls may not only be at greater risk than boys for emotional disorders such as depression and anxiety, but also may be as likely or more likely than boys to suffer from behavioral disorders such as delinquency and aggression.[192]

Eating Disorders. Rates of substance abuse and co-occurring eating disorders are particularly high among females.[193] Girls who use and abuse substances are more likely than those who do not to engage in disordered eating behaviors.[194] Between 30 and 50 percent of individuals with bulimia and between 12 and 18 percent of those with anorexia abuse tobacco, alcohol, illicit drugs or over-the-counter substances,[195] and 35 to 50 percent of known substance-abusing patients also have an eating disorder.[196] Approximately 50 percent of female adolescents with bulimia also use tobacco.[197] The prevalence of alcohol abuse in females with eating disorders is much higher than in the general female population and females with alcohol use disorders report eating-disordered behavior more often than the general population.[198] Approximately 23 percent of females with bulimia nervosa also have an alcohol use disorder.[199] Girls (ages 10 to 15) who have a history of getting drunk are approximately three times likelier to engage in purging in order to control their weight.[200] With regard to drugs, women with eating disorders primarily use cocaine and other stimulants as a means to control or lose weight by suppressing appetite and increasing metabolism.[201] Females with eating disorders often resort to prescription and over-the-counter (OTC) drugs, such as diuretics, to reduce water retention rapidly or to induce purging.[202]

Girls and Young Women Who Use Substances are at Greater Risk for Suicide

For young people ages 15- to 24-years old, suicide is the third leading cause of death, behind unintentional injury (accidents) and homicide.[203] Substance abuse often precedes suicidal thoughts, attempts and completion.[204] Seventy percent of young people who attempted suicide frequently had been found to use alcohol and/or other drugs.[205]

Girls are at greater risk than boys for thinking about and attempting suicide.[206] Nationwide, 23.6 percent of female high school students have seriously considered attempting suicide in the past year compared to 14.2 percent of male students.[207] More girls than boys report having made a specific suicide plan (17.7 percent vs. 11.8 percent) and actually attempting suicide (11.2 percent vs. 6.2 percent) in the past year.[208] This is not surprising given that more than one-third (34.5 percent) of teenage girls (compared to 21.6 percent of teenage boys) report regular feelings of sadness or hopelessness.[*] [209]

Younger girls appear to be at greater risk for suicide than older girls. Whereas approximately one-third of girls in all grades in high school report regularly feeling sad or hopeless, more than twice as many younger girls as older girls actually attempt suicide[†] (13.2 percent of ninth graders vs. 6.5 percent of twelfth graders).[210] More Hispanic girls have attempted suicide during the past year than white or black girls (15.9 percent vs. 10.3 percent and 9.8 percent, respectively).[211]

Teen girls with substance use disorders are at increased risk for suicidal tendencies, particularly if they came from dysfunctional families.[‡] Girls from such families are likelier to experience depression or anxiety which increase the risk of suicidality.[212] The risk of suicide among girls with depression or anxiety disorders is even greater if they also engage in extensive alcohol or drug use.[213]

Tobacco. CASA's analysis of data from the *1999 Youth Risk Behavior Survey* found that high school girls who smoke are nearly three times likelier to have considered or attempted suicide as girls who are not smokers (37.7 percent vs. 14.4 percent).[214]

Alcohol. CASA's analysis of data from the *1999 Youth Risk Behavior Survey* found that girls who binge drink are at three times the risk (33.9 percent) and girls who are current drinkers are at twice the risk (27.4 percent) of thinking about or attempting suicide as girls who never drink alcohol (11.3 percent).[215] The younger girls are when they initiate alcohol use, the likelier they are to report suicidal thoughts or attempts. Over one-third (35.9 percent) of girls who initiated alcohol use before age 13 report suicidal tendencies compared to one in five girls (21.4 percent) who initiated alcohol use in their later[§] teen years.[216]

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[*] Defined as: "felt so sad or hopeless almost every day for two or more weeks in a row that they stopped doing some usual activities."

[†] In the year preceding the survey.

[‡] Defined as: "hostile and rejecting parents, poor child supervision, child abuse, marital conflict, substance abuse."

[§] Ages 15 to 17.

Illicit Drugs. Girls who use marijuana are at increased risk for suicidal thoughts and suicide attempts. Whereas 19.5 percent of girls who never used marijuana report suicidal tendencies, 34.5 percent who are current marijuana users do so.[217] As with alcohol, the earlier girls initiate marijuana use, the greater their risk for suicidal thoughts and behaviors. Compared to the 30 percent of girls who initiated marijuana use in their late teens, 44.6 percent of those who initiated before age 13 report having had suicidal thoughts or behaviors.[218] Similar results were found for other illicit drug use.

Teen girls are at risk of suicide from overdosing on drugs such as pain relievers and antidepressants.[219] Attempted suicide accounts for 77 percent of these poisonings in girls younger than 19 years of age.[220]

Girls and Young Women Who Use Substances are Likelier to Get Into Fights

According to CASA's analysis of data from the *1999 Youth Risk Behavior Survey*, girls who smoke, drink or use drugs are at increased risk of getting into physical fights. High school girls who smoke are more than twice as likely to report having been in a physical fight in the past 30 days as nonsmoking girls (38.7 percent vs. 16.5 percent).[221]

Likewise, girls who report binge drinking are three times likelier and those who report current drinking are more than twice as likely as girls who never drink alcohol to have gotten into a physical fight during the past month (37.3 percent vs. 30.8 percent vs. 12.3 percent).[222] The younger a girl is when she begins drinking alcohol, the likelier she is to get into physical fights. Girls who began drinking before they turned 13 years of age were twice as likely to report getting into physical fights as girls who report initiating alcohol use after age 15 (45.3 percent vs. 23.2 percent).[223]

Girls who smoke marijuana are more than twice as likely to say they have gotten into fights as those who have never smoked marijuana (44.2 percent vs. 18.7 percent). The younger a girl is when she initiates marijuana use, the likelier she is to get into fights. Whereas less than one-third (30.6 percent) of girls who reported first trying marijuana in their later teen years get into fights, more than half (56.3 percent) of those who initiated marijuana use before age 13 have been in a physical fight in the past 30 days.[224] Similar results were found for girls' use of other illicit drugs.

Girls and Young Women Who Use Substances are Likelier to Engage in Risky Sexual Behavior

Although boys are more likely than girls to have ever had sexual intercourse (48.5 percent vs. 42.9 percent), girls are likelier than boys in grades ten (30.7 percent vs. 28.6 percent) and twelve (51 percent vs. 44.6 percent) and as likely as boys in grade eleven (38.1 percent vs. 37.8 percent) to report having sexual intercourse in the last three months.[225] White girls are less likely than boys in grades ten (85.4 percent vs. 91.4 percent), eleven (82.1 percent vs. 87 percent) and twelve (70.1 percent vs. 81.9 percent) to report abstaining from intercourse or using condoms during intercourse.[226]

Young women who frequently use alcohol or drugs are likelier to engage in riskier sexual behavior than those who experiment with or abstain from alcohol or drugs.[227] One in four (24.5 percent) ninth-grade sexually active girls (vs. 23.8 percent of boys) and 20.7 percent of all sexually active high school girls reported using alcohol or drugs at the time of their last sexual intercourse.[228] Girls who are under the influence of alcohol or drugs also are more vulnerable to sexual assault. In recent years, "date-rape drugs," such as flunitrazepam (Rohypnol) and gamma-hydroxybutyrate (GHB) have frequently been used for this purpose. Perpetrators slip these drugs into the drinks of often-unsuspecting young women because these drugs act rapidly, reducing inhibitions, relaxing voluntary muscles and causing the victim to have lasting amnesia regarding events that occur under the drug's influence.[229] Alcoholic beverages enhance the effects of some of these drugs.[230]

According to a CASA report, *Dangerous Liaisons: Substance Abuse and Sex*, high school students who have used alcohol at least once in their lives are seven times more likely to have had sex.[231] Thirty-nine percent of sexually active teens who report ever having used alcohol have had sexual intercourse with four or more individuals.[232] Fifty-five percent of teens say that sex while under the influence of alcohol or drugs is often a reason for unplanned teenage pregnancies.[233]

Sexually active girls with alcohol use disorders are significantly more likely to have a sexually transmitted disease (STD)--specifically herpes simplex virus type 2 (HSV-2)--than those without an alcohol use disorder (19 percent vs. 10.5 percent).[234] An estimated 25 percent (3.8 million) of the 15.3 million new cases of STDs* in 1998 were among teens, ages 15 to 19.[235] Given that only 58 percent of high school age drinkers and drug users report using a condom during their last sexual intercourse, it is reasonable to assume that the risk for HIV, other sexually transmitted diseases and pregnancy are significant for youth who use alcohol.[236] A study of teens found that 49 percent of those who were sexually active said they were more likely to have sex if they or their partner had been drinking and 17 percent said that they used a condom less often after they had been drinking.[237]

While college students who binge drink frequently (19 percent of college students) are seven times likelier than nonbinge drinkers to have unprotected sex and engage in unplanned sexual activity,[238] specific information on such risky sexual behaviors among female college students who engage in binge drinking is not available.

Pregnant Girls and Young Women Who Use Substances Put Their Health and Their Offspring's Health at Risk

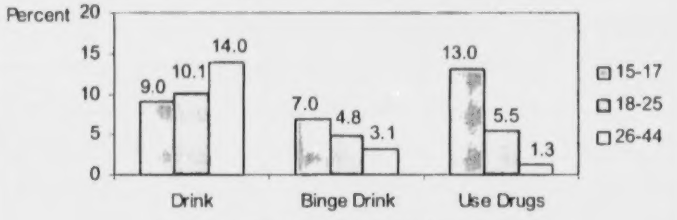
Each year, approximately 800,000 to 900,000 teenage girls, ages 13 through 19, become pregnant.[239] In 2001, 5.4 percent of high-school-age girls reported having been pregnant.[240] Nearly 80 percent of teen pregnancies are unplanned.[241] Substance use uniquely affects women in that use during pregnancy can have a wide range of detrimental health consequences for both the woman and her child.

Smoking. Teenage girls are likelier than women of any other age to smoke while pregnant.[242] Over 17 percent of pregnant teens, ages 15 to 19 years, smoke compared to 16.2 percent of pregnant women, ages 20 to 24.[243] Less than 10 percent of pregnant women over age 30 smoke.[244] Women who smoke during pregnancy are at increased risk for miscarriages, ectopic pregnancies, pre-term deliveries and having stillborn babies.[245] Children born to mothers who smoked during pregnancy are at increased risk for low birth weight, sudden infant death syndrome (SIDS), congenital defects and malformations and chronic ear infections.[246]

Alcohol and Drug Use. Although pregnant teens are less likely than pregnant adults to report past month alcohol use, they are more likely than women of any other age to binge drink. Approximately nine percent of pregnant girls, ages 15 to 17, report past month alcohol use compared to 10.1 percent of pregnant women ages 18 to 25 and 14 percent of pregnant women ages 26 to 44.[247] Seven percent of pregnant teenagers, ages 15 to 17, binge drink compared to 4.8 percent of pregnant women ages 18 to 25 and 3.1 percent of those ages 26 to 44.[248]

Figure 3.C

Alcohol and Drug Use During Pregnancy by Age*



* No comparable data available for tobacco.
Source: Office of Applied Studies. (2002).

Teenagers are more likely than women of any other age to use illicit drugs while pregnant.[249] Almost 14 percent of pregnant girls, ages 15 to 17, report past month illicit drug use compared to 5.5 percent of pregnant women ages 18 to 25 and 1.3 percent of pregnant women ages 26 to 44.[250] (Figure 3.C)

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* Excluding HIV and bacterial vaginosis.

Use of alcohol or illicit drugs during pregnancy is related to high rates of miscarriage and premature births.[251] Prenatal exposure to substances of abuse can create physiological changes in the brain of the developing fetus, which can result in mental retardation,[252] poor cognitive skills,[253] conduct disorders[254] and the development of drug and alcohol dependence.[255] The most severe known effect associated with prenatal exposure to alcohol is fetal alcohol syndrome (FAS).[256] Approximately six percent of the offspring of alcoholic women have FAS.[257] Problems associated with FAS include growth deficiency, characteristic facial anomalies, damage to the central nervous system, cardiac problems, skeletal malformations, visual and auditory deficits, altered immunological function and behavioral problems.[258]

Consequences of Substance Use:
CASA Survey Findings

- Girls who reported smoking at the time of the first interview (prior to their transition) were likelier to report being depressed six months later (after the transition).
- Girls at the first interview (prior to their transition) who reported ever drinking in their lifetime were more likely to be depressed six months later (after the transition) than girls who did not ever drink.

Young Women Who Use Substances Have Difficulty Assuming Adult Roles

Not only can substance use disrupt normal developmental milestones throughout adolescence, but it also can interfere with the normal assumption of adult roles, such as employment, marriage and childbearing. Smoking, drinking and drug use during the teen years increase the risk that girls will face problems as young adults, including relationship problems, emotional distress, physical health problems, family problems (increased divorce or separation, abortion), job instability and problems associated with substance use and abuse.[259] Individuals who use marijuana frequently in their teen years and in their early twenties are approximately twice as likely as those who do not to be unemployed, unmarried and to have a child out of wedlock once they are in their mid- to late-20s.[260]

Consequences of Substance Use:
Other Key Findings

- Females are particularly vulnerable to the physical consequences of smoking, drinking and drug use, even when using the same amount or less of a particular substance than males.
- Girls who use tobacco in elementary school are nearly three times likelier than other girls to smoke once they reach middle school (two or three years later).
- Girls who drink alcohol in elementary school are over four times likelier than other girls to use alcohol once they reach middle school (two or three years later); no such relationship is found for boys.
- High school girls who smoke or drink are nearly twice as likely to report feeling sad or depressed as girls who never smoke (47 percent vs. 25.3 percent) or drink (38.7 percent vs. 20 percent). High school girls who use marijuana are likelier to report feeling sad or hopeless than girls who have never used marijuana (42.9 percent vs. 29.7 percent).
- High school girls who smoke, drink or use marijuana are more than twice as likely to report having been in a physical fight in the past 30 days than girls who don't smoke (38.7 percent vs. 16.5 percent), girls who never drink alcohol (30.8 percent vs. 12.3 percent) or girls who have never used marijuana (44.2 percent vs. 18.7 percent).

Substance Use Among Girls Increases the Risk of Multiple Drug Use and Dependence

Substance use during adolescence is likelier than use during adulthood to result in addiction, in part because of the greater effects drugs and alcohol have on the chemistry of the developing brain.[261] Teens who smoke, drink or use drugs are likely to use more than one substance and are at risk of developing a substance use disorder in young adulthood.[262] The probability of using both alcohol and cigarettes is higher for adolescent girls than boys.[263] Among adolescent girls, smoking cigarettes and using marijuana are significant predictors of problem drinking.[264] Female high school students who currently smoke are up to six times likelier than nonsmokers to have used cocaine, inhalants and other illicit drugs in their lifetimes and up to fifteen times likelier to be current users of alcohol, marijuana and cocaine.[265]

One study of 12- to 16-year old girls and boys found that, relative to nonsmokers, the risk for being a current drinker was 18 times higher for current smokers.[266] Relative to nondrinkers, the risk for being a current smoker was 20 times higher for moderate-to-heavy drinkers.[267] Risks for marijuana or cocaine use were 11 times higher for current smokers compared to those who had never smoked.[268] Likewise, risks for illicit drug use were 13 times higher for moderate to heavy drinking teens compared to those who had never drunk.[269]

Early substance use is a powerful predictor of later substance abuse.[270] The younger a person is when she begins to drink or use drugs, the greater the likelihood of abuse.[271] Individuals who begin drinking before the age of 15 are four times likelier to become alcohol dependent than those who do not drink before age 21.[272] The prevalence of lifetime alcohol abuse is greatest for those who begin drinking before 15 years of age.[273] The risk of future alcohol dependence decreases by 14 percent with each passing year of abstention.[274] Youth who are diagnosed with an alcohol use disorder during high school are more likely to have drinking problems at age 24 than those without a high school drinking problem.[275] Although most youth who smoke, drink or use marijuana will not move on to heroin and cocaine, teens who use these substances are far more likely to get into harder drugs than teens who do not. The risk for progression to the "next stage" of substance use (e.g., from alcohol to marijuana) is dramatically increased for those who started using substances at an early age (before age 15).[276]

Chapter IV
Pathways: Biological Risks For Substance Abuse

A fundamental pathway to substance abuse is found in a girls' own biological makeup. Therefore, understanding the role of biology is critical to informing prevention and treatment.

Whether girls and young women smoke, drink or use drugs is determined more by their environment than by their genetics or biology.[1] However, genetic and biological factors appear to play a larger role than environmental factors in determining whether substance use will develop into abuse and addiction.[2]

Girls whose mothers smoked[3] or drank alcohol[4] during pregnancy are likelier to smoke and drink when they are teens and young adults than girls who were not prenatally exposed to tobacco or alcohol. These relationships between prenatal exposure and later substance use are significantly stronger for girls than for boys and are thought to have a biological basis.

Girls who experience early puberty are at increased risk of engaging in substance use earlier, more often and in greater quantities than their later maturing peers.[5]

Biological Contributions to Addiction

Substance abuse in a biological parent relates directly to substance abuse in the child. Certain mental health disorders* in a biological parent relate to similar mental health disorders in children and these mental health disorders tend to co-occur with substance abuse.[6]

Twin and adoption studies confirm a genetic role in the transmission of alcohol, tobacco and illicit drug use behaviors from parent to child.[7] Much of the research on the genetic contributions of substance abuse has focused on alcoholism.

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* E.g., conduct disorder.

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Whereas some studies of twins have found that genetics might be a more critical factor for alcoholism in women than men,[8] other researchers have found estimates of the genetic risk to females for alcoholism to be comparable to that of males.[9]

Indicators of gender differences in biological tendencies toward alcoholism can be found in studies of physical reactions to alcohol use.[10] One study of daughters of alcoholics found that they tend to have a greater physiological tolerance for alcohol,[11] increasing the risk of heavy drinking and the development of subsequent alcohol problems. Another study found that young women with a family history of alcoholism produced more saliva when exposed to alcohol than women without such a history, suggesting a potential risk for more intense alcohol craving and future alcohol problems.[12]

In many cases, common biological or genetic factors can account for the co-occurrence of substance abuse and psychiatric disorders.[13] For example, the co-occurrence of frequent smoking and alcoholism with major depressive disorder appears to result primarily from genetics that predispose women to both conditions.[14] One study of female twins found that women with major depressive disorder were approximately three to six times more likely than those without to suffer from alcoholism.[15] Childhood conduct disorder and alcoholism also appear to be genetically linked in women.[16]

Girls Whose Mothers Smoked or Drank During Pregnancy are at Increased Risk for Substance Use

Girls who were exposed prenatally to their mothers' tobacco or alcohol use appear to be more vulnerable than boys to smoking and drinking in adolescence and early adulthood.[17]

Prenatal Exposure to Tobacco

Girls whose mothers smoked during pregnancy are four times likelier to smoke during adolescence and into young adulthood than girls whose mothers did not smoke during pregnancy.[18] The relationship between prenatal exposure to maternal tobacco use and smoking during adolescence is stronger for daughters than for sons and exists regardless of the amount the mother smoked during pregnancy.[19] Prenatal exposure to heavy smoking[*] increases the risk fivefold that children will engage in alcohol use during their teen years.[20]

Prenatal Exposure to Alcohol

Daughters whose mothers drank moderately to heavily[†] during pregnancy are six times likelier to report having drunk alcohol in the past year than girls not prenatally exposed to alcohol.[21] The relationship between prenatal exposure to alcohol use and past year drinking among girls remains strong even when taking into account other factors that might influence girls' alcohol use.[22] No such relationship between maternal drinking during pregnancy and teen alcohol use has been found for boys.[23] Researchers believe that a biological explanation can best account for the relationship between prenatal exposure to alcohol and daughters' alcohol use.[24]

Early Puberty Increases Girls' Risk for Substance Use

The timing of the biological changes associated with puberty is related to a girl's risk for substance use and other problem behaviors. Girls whose physical and sexual maturation proceed faster than average are at increased risk for a spectrum of negative outcomes, including substance use and abuse.[25] Girls who experience early puberty are at increased risk of engaging in substance use earlier, more often and in greater quantities than their peers whose physical maturity occurs later.[26]

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[*] A pack or more of cigarettes a day.

[†] A minimum of a third of a drink per day (.14 oz. of absolute alcohol/day) to a maximum of 3.5 drinks per day (1.78 oz. of absolute alcohol/day).

In a comparison of 15-year old girls whose age at menarche (first menstruation) was under 12 to those who had not yet experienced menarche, the early maturing girls were significantly more likely to drink to intoxication, smoke marijuana and try illicit drugs.[27] Among 16-year old girls, one study found that early maturing girls (age at menarche of 11 years or younger) were more likely than later maturing girls (age at menarche of 14 years or older) to have smoked their first cigarette before the age of 12 (34 percent vs. 13 percent) and twice as many early maturing girls reported current daily smoking.[28] Likewise, early maturing girls were more likely than later maturing girls to have drunk beer before the age of 12 (20.6 percent vs. 6.6 percent) and to be current frequent (weekly) drinkers (11.5 percent vs. 5.2 percent).[29] Another study found that girls with early menarche (prior to 11.6 years of age) have nearly twice the risk of substance abuse as other girls (32.9 percent vs. 17.9 percent) and three times the risk for a diagnosis of co-occurring depression and substance abuse (13.3 percent vs. 4.5 percent). [30]

Like the risk for substance use, there are biological and environmental influences on the timing of puberty.[31] One biological explanation for the relationship between early puberty and an increased risk for substance use points to the role of testosterone both in substance use and the timing of puberty onset. Higher testosterone levels in young adult females have been associated with current smoking and smoking during adolescence as well as with the earlier onset of puberty.[32]

The link between early puberty and substance use among girls also may be explained by the greater tendency of early-maturing girls to associate with older, more risk-taking peers[33] and to use substances to cope with the physiological and emotional stresses associated with puberty.[34]

In addition to puberty's role in increasing the risk for substance use, substance use and abuse during puberty can significantly influence a girl's growth and maturation. During puberty, the brain and body continue to develop and the course of development is highly susceptible to both positive and negative external forces. Research suggests that sustained exposure to illicit drugs prior to and during puberty can result in lasting changes in the brain's structure and chemistry and certain drugs, such as cocaine, may interfere with a girl's reproductive development and functioning.[35] Likewise, pre-pubertal use of alcohol can delay normal pubertal development and affect the maturation of the reproductive system by interfering with the secretion of certain female reproductive hormones.[36]

Biological Pathways:
Key Findings

- Genetics plays a relatively strong role in the development of substance abuse and dependence among females.
- Girls whose mothers smoked during pregnancy are four times likelier to smoke during adolescence and into young adulthood than girls whose mothers did not smoke during pregnancy. Girls whose mothers smoked heavily during pregnancy are at five times the risk of drinking alcohol during their teen years.
- Girls whose mothers drank alcohol moderately to heavily during pregnancy are six times likelier to report having drunk alcohol in the past year than girls whose mothers drank less or not at all.
- Girls who experience early puberty are at increased risk of engaging in substance use earlier, more often and in greater quantities than their later maturing peers. Substance use and abuse during puberty can adversely influence girls' normal growth and maturation.

Chapter V

Pathways: Personal Attributes, Attitudes and Childhood Experiences That Increase Risk

Girls' personal attributes, attitudes and childhood experiences can create pathways to addiction. Girls who are depressed or have low self-confidence are twice as likely to report smoking, frequent drinking or drug use as those who are less depressed or have higher self-confidence.[1] Concerns about weight and appearance are more common among teen girls who smoke[2] or drink alcohol.[3] Girls who have a conduct disorder are at greater risk for substance abuse than boys with a conduct disorder.[4]

Also at increased risk for substance use are girls who believe that their use of tobacco, alcohol or drugs will produce desirable effects, such as improving a depressed mood,[5] relieving stress or anxiety,[6] reducing tension[7] or otherwise helping them to cope with stressful personal problems.[8]

Girls who have been sexually or physically abused are at least twice as likely to smoke, drink or use drugs as those who were not abused.[9] In fact, childhood sexual abuse appears to pose one of the greatest risks of all for female alcoholism.[10]

A Difficult Temperament, Depression, Anxiety and Low Self-Esteem Increase Girls' Risk

Certain personality and behavioral characteristics, such as a lack of empathy for others, easy and frequent lying, aggression, impulsivity and low self-esteem, may be precursors of future substance use.[11] People with good social skills, self-confidence, self-discipline and a sense of purpose about their futures are at reduced risk for substance use.[12] These characteristics may serve as buffers against other risks associated with substance use such as the negative influence of peers or a poor parent-child relationship.

Early Childhood Temperament Can Signal Future Risk

Signs of future substance abuse can often be detected in children at a very early age.[13] Although only a few studies have examined gender differences in this regard, the general findings show that young girls and boys with difficult temperaments, who demonstrate poor adaptability, hyperactivity, insecurity or chronic negative moods, may have more problems coping with the interpersonal demands of adolescence and young adulthood, making them more vulnerable to substance use and abuse as they age.[14] One study found that girls who were messy, sulky, dominating, jealous, unsharing and nonempathetic in nursery school were more likely to use drugs at age 14.[15] Hyperactivity during childhood and preadolescence also is a clear risk factor for substance use and abuse during the teen and early adulthood years.

Conduct disorder is related to an increased risk of substance abuse.[16] Although this type of disorder is less common in girls than in boys, the risk of substance use and abuse is higher in conduct-disordered girls than boys.[17] In one study, the increased risk of substance use among 17-year-old girls with conduct disorder was more than four times that of girls without conduct disorder; the risk for boys was two-and-a-half times greater for those with versus without conduct disorder.[18] Women with a history of childhood conduct disorder are nearly five times likelier than those without such a history to develop alcohol dependence, whereas men with a history of conduct disorder are only twice as likely to develop alcohol dependence.[19] The more symptoms of conduct disorder a woman has during childhood, the greater her risk for adult behavioral disorders and substance abuse.[20] Because conduct problems are more unusual in girls than in boys, girls with such problems may be at greater risk of peer rejection, attraction to deviant peer groups or more punitive responses from parents, all of which increase the risk for future substance abuse.[21]

Rebelliousness, Depression and Anxiety Increase Risk

Individual differences in certain personality traits may provide clues as to why some girls engage in substance use while others refrain from doing so. Research consistently indicates that one of the key risk factors for smoking, drinking and drug use in both females and males is a tendency toward rebelliousness, risk taking and sensation seeking.[22] One study of fifth graders found that girls who exhibited high levels of risk-taking behavior were twice as likely to smoke in the twelfth grade.[23]

Depression also is a significant risk factor for substance use. Girls are likelier than boys to experience depression.[24] Almost one in four girls[*] (23 percent) exhibit depressive symptoms (compared to 16 percent of boys).[25] Teenage girls with depressive symptoms are twice as likely as those who are less depressed to report smoking[†] (23 percent vs. 11 percent), drinking[‡] (25 percent vs. 11 percent) or drug use[§] (30 percent vs. 14 percent).[26]

Tobacco. Whereas girls who initiate smoking early in adolescence[**] tend to have extroverted and sociable personalities, these same girls who continue to smoke and increase their levels of tobacco use in later adolescence and young adulthood[††] tend to be depressed and have poor social relationships.[27]

Alcohol and Illicit Drugs. Personality traits that have been associated with alcohol and drug abuse in girls and young women are impulsivity, antisocial or aggressive behavior, depressed mood and anxiety.[28]

CASA's *Formative Years* survey found that girls who reported depressive symptoms at the first interview were significantly likelier than those with fewer depressive symptoms to report greater alcohol use,[29] binge drinking[30] and more frequent marijuana use[31] at the second interview, even after taking into consideration their earlier alcohol or marijuana use. These relationships were particularly true of girls in the oldest age cohort.

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[*] In grades five through 12.

[†] Smoking several cigarettes to a pack or more in the last week.

[‡] Drinking alcohol at least once a month.

[§] Using illegal drugs in the last month.

[**] In grades seven through nine.

[††] High school and college age.

These findings support other research that finds that girls with a susceptibility to depression and anxiety are particularly vulnerable to developing substance use disorders.[32] Depression and anxiety during preadolescence increase the risk of alcohol use initiation in adolescence[33] and the development of a drug disorder in early adulthood.[34]

Girls who use marijuana are likelier than those who do not to demonstrate conduct problems in their early teen years[35] and also tend to be more rebellious, unconventional, impulsive, self-centered and immature.[36] Girls who use illicit drugs in addition to marijuana tend to demonstrate these traits as well; however, they also tend to have additional psychopathological characteristics such as being unexpressive, detached, distrustful or defensive.[37]

Girls With Low Self-Esteem are at Increased Risk

Self-esteem--a person's self-confidence or self-image--plays an important role in girls' use of tobacco, alcohol and drugs. Self-esteem declines for both girls and boys upon entering middle school; however, the decline among girls typically is more dramatic, particularly among white girls.[38] A national survey of girls found that 14 percent of high-school aged girls have low self-confidence compared to nine percent of younger girls.[39]

Teenage girls with low self-confidence are twice as likely as those with higher self-confidence to report smoking[*] (20 percent vs. 11 percent), drinking[†] (21 percent vs. 11 percent) or drug use[‡] (31 percent vs. 13 percent).[40] One study found that girls, who at age 12 were low in self-esteem, were nearly two and a half times likelier to engage in heavy[§] alcohol use at age 15 than those higher in self-esteem.[41] Self-esteem was not related to heavy alcohol use in boys.[42]

Girls tend to be vulnerable to image-related motivations to smoke, such as doing it to fit in, appear more mature, be cool or be more sociable.[43] Girls also perceive smoking as a way to connect with others or break the ice in potentially uncomfortable social situations.[44] There appears to be a complex relationship between the image of smoking, the images that young smokers hold of themselves and the image to which they aspire; these relationships also vary with age.[45] For example, young smokers appear to be concerned most with sexuality and body image; 12- and 13-year old female smokers rate themselves as being more sexy/seductive and wanting to be more sexy, slim and attractive than nonsmokers of the same age.[46] On the other hand, 15- and 16-year old female smokers focus more on being trendy and fashionable than on being sexy and seductive.[47] Eighteen- and 19-year old female smokers rate themselves as being more wild, cool, tough and arrogant than nonsmoking females of this age.[48]

In addition to smoking, low self-esteem is strongly associated with alcohol use and abuse in young women.[49] College-aged women with a diagnosis of an alcohol use disorder have lower self-esteem than males with the same diagnosis.[50] In comparison to female college students who do not report having a drinking problem, those who do are approximately four times likelier to report feeling worthless.[51]

Despite the high levels of substance use among girls, many girls still choose not to smoke, drink or use drugs. Girls high in self-esteem, self-efficacy and trustworthiness generally are less likely to engage in delinquency and substance use.[52]

---

[*] Smoking several cigarettes to a pack or more in the last week.

[†] Drinking alcohol at least once a month.

[‡] Using illegal drugs in the last month.

[§] Heavy alcohol use was defined as using alcohol three or more times during the last 30 days and having been intoxicated three or more times during this period.

Academic Problems Increase Risk

Academic difficulty is a strong risk factor for substance use among teens. Girls who use alcohol and tobacco in the teen years are likelier to have had academic problems.[53] Girls who use multiple substances during their teen years are likely to have had academic and social difficulties during preadolescence.[54]

According to CASA's *2002 National Survey of American Attitudes on Substance Abuse VII: Teens, Parents and Siblings*, teens who usually get A's and B's in school are at half the risk for substance use as teens who get lower grades.[55] Teens who became alcoholics had lower productivity in high school, a greater number of truancies and a greater incidence of dropping out.[56] Poor school performance in preadolescence and adolescence increases the risk for alcohol and drug abuse in early adulthood.[57]

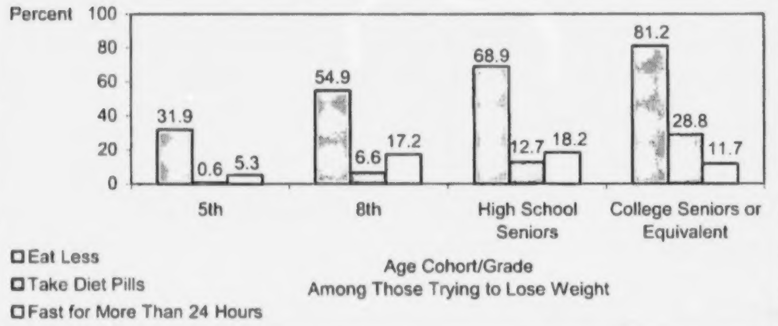
Concerns About Weight and Appearance Increase Risk

For girls, dissatisfaction with body weight and attempts to control weight play an important role in promoting both eating disorders and substance use. The effect of weight concerns on substance use can be seen over a wide spectrum of weight-related attitudes and behaviors, ranging from mere appearance concerns to full-blown eating disorders. High school girls are significantly likelier than boys to diet (58.6 percent vs. 28.2 percent) and to engage in disordered weight-related behaviors, such as fasting (19.1 percent vs. 7.6 percent), taking diet pills (12.6 percent vs. 5.5 percent) or vomiting or taking laxatives (7.8 percent vs. 2.9 percent) to lose weight or keep from gaining weight.[58]

CASA's *Formative Years* survey found that whereas 19.8 percent of fifth grade girls report trying to lose weight, more than twice as many young women in their later teen and early adult years (36.9 percent of eighth graders, 40.2 percent of high school seniors and 43.8 percent of seniors in college) report trying to lose weight. As girls get older, they are significantly likelier to engage in weight control behaviors, some of which are quite unhealthy. (Figure 5.A[*])

Figure 5.A

Dieting Behaviors in the Formative Years



The greatest change in the tendency to diet occurs during middle school (between the fifth and eighth grades), a time when most girls are going through puberty and putting on weight--a natural phenomenon that conflicts with fashion's beauty ideal.

> *Q: Why do you think, with all the things kids hear -- they're really raised with an awful lot of information about how horrible it is for their health -- they would pick up a cigarette and smoke?*
>
> *A: Same reason why I did... When I first started working I started eating during my breaks. And somebody said have a cigarette and you won't want to eat.*
>
> --Mother of 11- to 12-year-old girl
> CASA Focus Group

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[*] Data presented are from the first interview.

CASA's *Formative Years* survey asked girls about the consequences they associated with losing weight. Younger girls associated weight loss with being prettier and with greater popularity, whereas older girls were likelier to associate it more specifically with being prettier. (Figure 5.B*)

Figure 5.B

Girls' Perceived Effects of Losing Weight

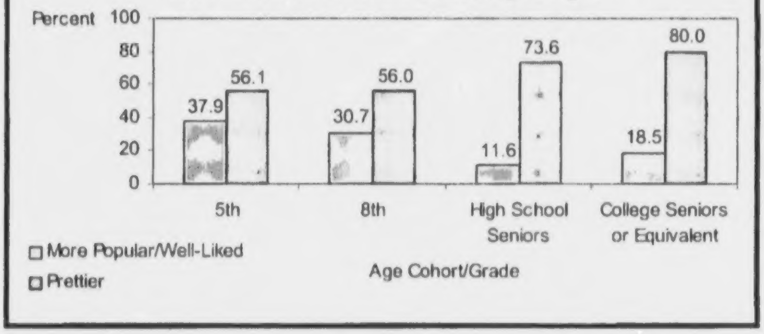
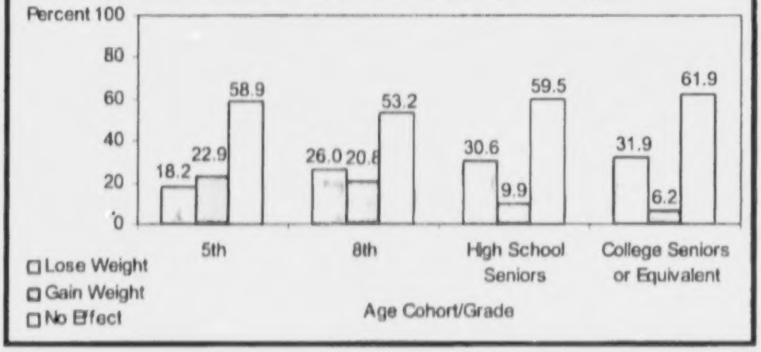


Figure 5.C

Girls' Perceived Effects of Smoking on Weight



Although increases in dieting behaviors can be seen as early as middle school, the teen years are when girls begin to show symptoms of eating disorders.[59] These are precisely the same years when girls are at greatest risk for engaging in substance use.[60] Girls with eating disorders may use tobacco, alcohol or other drugs to self-medicate negative feelings or to further help in their efforts to lose weight.[61]

Tobacco. For girls, there is a strong relationship between weight concerns, dieting and smoking.[62] Weight loss is considered an important motivational factor for smoking, particularly among girls and young women.[63] However, CASA's *Formative Years* survey found that, overall, most girls believe that smoking has no effect on weight (58 percent). Nevertheless, older girls in the survey were likelier than younger girls to believe that smoking makes one lose weight.[64] (Figure 5.C†) Body image concerns appear to be more prevalent among teen girls who smoke than among those who do not.[65] Females who smoke are likelier than males who smoke to cite weight concerns as a reason to not quit.[66]

CASA's *Formative Years* survey found that girls who diet even without engaging in unhealthy (excessive) dieting behaviors, such as fasting, taking diet pills or bingeing and purging, smoke significantly more than nondieters.[67] This relationship holds true even after taking into account the girls' level of depression--a common correlate of disordered eating behaviors and smoking. Other research studies support these findings. Girls, ages 10 to 15, who report being concerned about their weight are twice as likely to start smoking as girls not concerned about their weight.[68] Girls who report trying to lose weight at ages 11 or 12 are approximately twice as likely to engage in daily smoking in their late teens.[69]

The more intense the dieting, the greater the odds are of smoking initiation. Girls (ages nine to 14) who report dieting daily, are almost twice as likely to have tried smoking as girls who diet less often.[70] Girls who are "normal" dieters--dieting once per week or less in the previous month and showing no signs of eating pathology--are almost twice as likely to become smokers as nondieters.[71] Girls who report more frequent dieting (i.e., more than once per week), are nearly four times more likely to become smokers compared to nondieters.[72]

---

* Data presented are from the first interview.

† Data presented are from the first interview.

Alcohol. Extensive research documents an association between eating disorders and alcohol abuse.[73] In fact, the relationship between alcohol use and weight-related behaviors can be found across the continuum from simple dieting to full-blown eating disorders.[74]

CASA's analysis of the *1999 Youth Risk Behavior Survey (YRBS)* found that girls who drank more alcohol were significantly likelier to perceive themselves as overweight, to want to lose weight and to engage in unhealthy dieting behaviors, such as fasting, taking diet pills, vomiting or taking laxatives.[75] CASA's *Formative Years* survey found similar results, indicating that girls who report wanting to lose weight drink more than those who are satisfied with their weight.[76] Furthermore, girls who report taking diet pills to lose weight drink, on average, twice as much as girls who want to lose weight but never took diet pills to do so.[77] *CASA's Formative Years* survey also found that girls who engaged in unhealthy dieting behaviors, such as fasting, taking diet pills or bingeing and purging, reported drinking significantly more alcohol than nondieters.[78] The magnitude of these relationships remains the same even after taking into account the girls' level of depression--a common correlate both of disordered eating behaviors and alcohol use.

Although alcohol is high in calories and contributes to weight gain, only about half (56 percent) of the girls in our sample were aware of this. In fact, 5.7 percent even thought that drinking alcohol makes one lose weight. These latter girls tend to drink more than those who believe alcohol has no effect on weight.[79]

The more severely a young woman diets the more likely she is to abuse alcohol.[80] Girls (ages 10 to 15) who report being highly concerned about their weight are nearly twice as likely to get drunk as those who are less concerned about their weight.[81] A study of college incoming freshman women showed that 72 percent of at-risk* and bulimic dieters reported using alcohol in the past month compared to 44 percent of those who did not diet.[82] The more severe dieters also were more likely to abuse multiple substances.[83] Another study found that chronic dieters do not necessarily drink more frequently than other women but when they do drink, they drink significantly more alcohol.[84]

Thus, regardless of alcohol's weight-gaining properties, girls who perceive themselves as being overweight, are actively trying to lose weight, or who engage in unhealthy (excessive) dieting behaviors drink more alcohol than girls with healthier weight-related attitudes and behaviors.

Illicit Drugs. Young women with eating disorders use cocaine and other stimulants as a means to control or lose weight by suppressing appetite and increasing metabolism.[85] Anorexics and bulimics report being drawn to cocaine because it is an appetite suppressant.[86] Individuals with eating disorders also often resort to prescription and over-the-counter (OTC) drugs, including diuretics, emetics and laxatives, to help them lose weight by reducing water retention rapidly or inducing purging.[87]

Individuals with eating disorders may use diet pills or drugs designed specifically to aid in weight loss. In 2001, 12.6 percent of female high school students reported that in the previous month they had taken diet pills, powders or liquids without a doctor's advice to lose weight or to keep from gaining weight.[88]

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* Met two of the three DSM-III-R criteria for bulimia.

**Personal Attributes Pathways:
CASA Survey Findings**

- Girls with depressive symptoms were significantly likelier to report greater alcohol use, binge drinking and marijuana use six months later.
- Girls who diet smoke significantly more than nondieters.
- Girls who take diet pills to lose weight drink, on average, twice as much as girls who want to lose weight but have never taken diet pills.
- Only 56 percent of the girls surveyed were aware that alcohol is high in calories and contributes to weight gain. Nearly six percent of girls thought that drinking alcohol makes one lose weight; these girls tend to drink more than those who believe alcohol has no effect on weight.

**Personality and Behavioral Pathways:
Other Key Findings**

- Risk factors for substance abuse include a difficult temperament, risk taking, conduct disorder, depression, anxiety, academic difficulty and concerns about weight and appearance.
- Girls with conduct disorder have a greater risk for substance abuse than boys with conduct disorder.
- Girls are likelier than boys to engage in disordered weight related behaviors, which are strongly linked to female substance use.

Positive Attitudes About the Effects of Substance Use Increase Risk

Children's knowledge and expectations about substance use usually develop through vicarious learning--by observing family members' or peers' behaviors and through the media--or through personal experience with a substance.[89] Their expectations may be formed at a very young age, often prior to any actual experience with the substance.[90] The more favorable the image a child has of the typical smoker, drinker or drug user, the more willing he or she will be to engage in the behavior.[91]

Preadolescent girls participating in CASA's focus groups reported negative substance-related attitudes, stating that the kids who avoided drugs were smarter and healthier, while kids their age who did drugs were "stupid," "not doing well in school," "upset" or "having problems." Furthermore, these girls expressed limited positive attitudes toward substance use. A few of the girls did mention that some people who take drugs do it to "look cool" or to "impress people." Unfortunately, as children age, their attitudes toward substances of abuse tend to become more positive.[92]

Tobacco

By the sixth grade, children's beliefs and expectations about the positive versus negative effects of tobacco depend in part on whether the child has already engaged in smoking.[93] Sixth graders who smoke are likelier to have positive beliefs about tobacco use, for example, believing that "smoking makes you look cool," and less likely to have negative beliefs about tobacco use, such as "smoking makes you sick."[94]

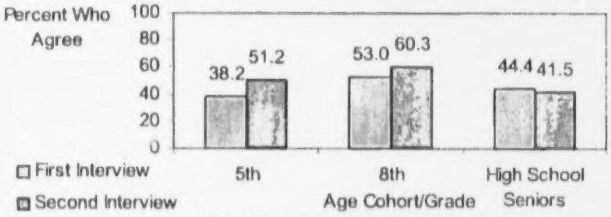
Almost every teen--smokers and nonsmokers alike--agrees that smoking a pack of cigarettes each day will eventually harm a person's health.[95] However, the short-term risks of tobacco use are frequently underestimated by teens.[96] Adolescent smokers also view themselves as more vulnerable to health problems than nonsmokers, but at the same time, they place less value on their own health than do nonsmokers.[97]

CASA's *Formative Years* survey found that girls' attitudes toward smoking and its effects vary significantly with age. Older girls are significantly likelier than younger girls to agree that smokers do as well in school as nonsmokers and that smoking helps people their age relax.

> *Q: What do you think of kids your age who smoke?*
>
> *A: They're stupid.*
> *A: That's stupid to do. It's like you want to kill yourself or something.*
>
> --Preadolescent Girls (11- to 12- years old)
> CASA Focus Group

Figure 5.D

Girls Who Belive That People Their Age Smoke Cigarettes to Disobey Adults



Note: This question was not asked of College Seniors or Equivalent group.

Figure 5.E

Girls Who Believe That Smoking Cigarettes Helps People Relax

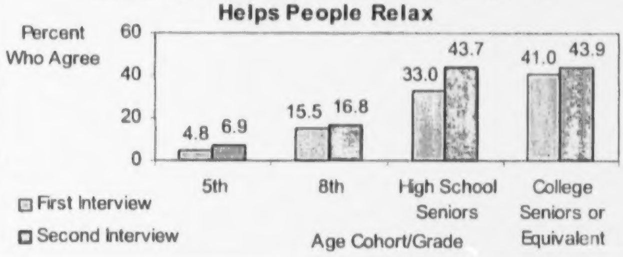
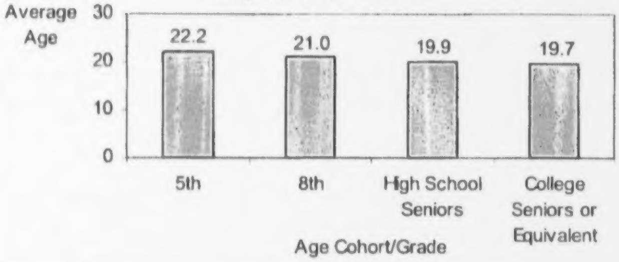


Figure 5.F

Average Age Provided by Girls for When it is Okay to Drink Alcohol



At the same time, the oldest girls are the likeliest to agree strongly with the statement that it is easy to get addicted to smoking cigarettes and to disagree with the statement that people their age who smoke look more mature than those who don't smoke.

The survey also found that certain school transitions increase the risk that girls will have more positive smoking-related attitudes. For example, the transition from elementary to middle school is when the greatest increase is seen in girls' beliefs that smoking is a way to be rebellious and disobey adults (Figure 5.D).

The transition from high school to college is when the greatest increase is seen in girls' belief that smoking cigarettes helps people relax. (Figure 5.E)

Girls' attitudes about smoking are linked to their smoking behavior. For example, girls in CASA's survey who think that smoking helps people relax reported somewhat higher levels of smoking. Those who agreed that smoking makes people their age look cool or who did not believe that it is easy to become addicted to smoking showed a greater increase in tobacco use between the first and second interviews than those who disagreed.

Alcohol

Teens and young adults use alcohol to get intoxicated, but also because they believe that alcohol will help them relax, enjoy company, boost confidence and make them feel better.[98] Analyses of CASA's *Formative Years* survey found that girls' alcohol-related attitudes and beliefs vary somewhat with age. For example, older girls provide earlier ages than younger girls for when they think it is "okay" to drink alcohol. Only the youngest two cohorts--the fifth and eighth graders--provided an average age at or above the legal drinking age of 21. The older two groups, on average, believed that drinking before age 20 was okay. (Figure 5.F[*])

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[*] Data presented are from the first interview.

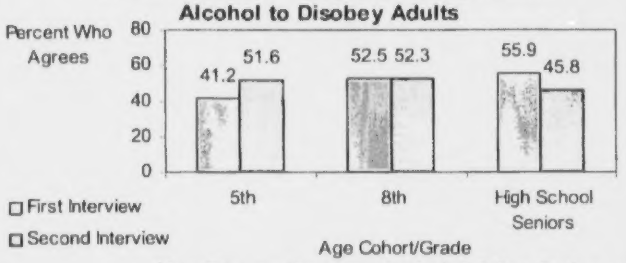
Similar to the findings for smoking, CASA's survey also found that older girls are significantly likelier than younger girls to believe that drinkers do as well in school as nondrinkers; that drinking alcohol helps people their age deal with being bored, sad or depressed; and that getting drunk gives people their age an excuse for doing things they wouldn't usually do. In contrast to smoking beliefs, however, older girls were somewhat less likely than younger girls to agree that it is easy to get addicted to alcohol.

The survey also found that certain school transitions increase the risk that girls will have more positive alcohol-related attitudes. For example, the transition from elementary to middle school is when the greatest increase is seen in girls' belief that drinking is a way to be rebellious and disobey adults. (Figure 5.G) The transition from middle to high school is when the greatest increase is seen in girls' belief that drinking alcohol is cool. (Figure 5.H) Finally, the transition from high school to college is when the greatest increase is seen in girls' beliefs that drinking alcohol helps reduce boredom, sadness and depression. (Figure 5.I)

Girls' attitudes about alcohol use are linked to their drinking behavior. For example, girls in CASA's survey who think that drinking alcohol helps people their age deal with being bored or deal with being sad or depressed report more alcohol use both before and after they make their developmental transition (first and second interviews). Girls who believe that girls their age who drink alcohol do as well in school as those who do not drink also report more alcohol use and more binge drinking at both interviews.

Figure 5.G

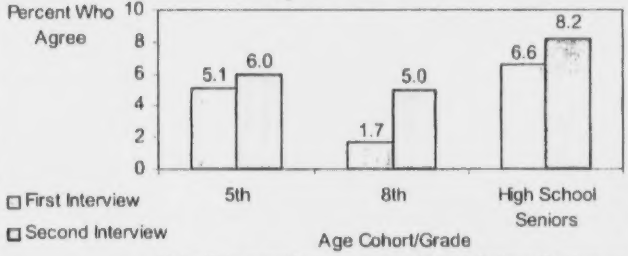
Girls Who Believe People Their Age Drink Alcohol to Disobey Adults



Note: This question w as not asked of College Seniors or Equivalent group.

Figure 5.H

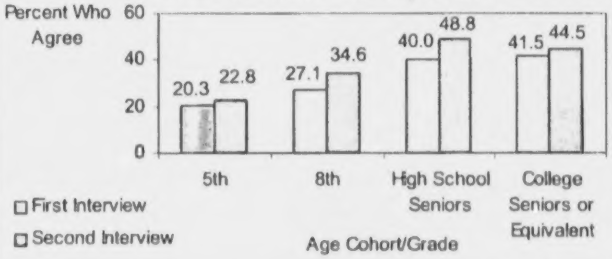
Girls Who Believe Drinking Alcohol Makes People Look Cool



Note: This question w as not asked of College Seniors or Equivalent group

Figure 5.I

Girls Who Believe Drinking Alcohol Helps One Deal with Sadness or Depression



Positive and negative attitudes toward alcohol use vary with alcohol-related experiences and with age; children who already have tried drinking are more likely to have positive attitudes toward it than those who have never tried drinking.[99] In the sixth grade, girls and boys have relatively negative beliefs about the likely consequences of consuming alcohol.[100] Nevertheless, boys have significantly more positive attitudes about drinking than girls at this age and are likelier to perceive that drinking will make them more socially accepted.[101] In elementary school, young boys are likelier than young girls to believe that their friends think it is okay for them to drink alcohol and that drinking alcohol would make them feel more grown up.[102] Girls at this age are likelier than boys to believe that a positive effect of alcohol is its ability to take away bad moods or feelings.[103] Therefore, girls appear to be attuned to the self-medicating powers of alcohol even before they begin to drink.[104]

Both young women and men who drink frequently or intensely tend to drink in social settings, often with the goal of becoming less inhibited.[105] Young men are more likely to drink in the context of seeking sexual relations, whereas young women do so more in the context of emotional pain, such as when they are depressed or concerned about personal or academic problems.[106] Females also are more likely than males to report using alcohol to decrease boredom and to use substances to increase confidence and enhance sex.[107]

Similar patterns emerge when examining motivations for binge drinking. Young women are more likely than young men to initiate binge drinking to alleviate distress; that is, when feeling anger or a need to get away from troubles.[108] In contrast, young men report initiating binge drinking more for social and appearance reasons (to appear powerful).[109]

Illicit Drugs

Young people tend to report using marijuana to relax, become intoxicated, reduce boredom and to feel better emotionally.[110] Amphetamines, Ecstasy and cocaine are reportedly used to stay awake, feel euphoric and to enjoy social gatherings.[111] Females also report using these drugs to help them lose weight.[112]

Girls Differ With Age in Gateway Theory Beliefs

The gateway theory holds that adolescent drug use occurs in a sequential pattern, such that teens who experiment with alcohol or cigarettes are likelier to experiment with marijuana.[113]

CASA's *Formative Years* survey found that girls' gateway theory beliefs are related to their friends' substance use. According to data from the second wave of interviews, the more friends girls have who currently smoke, drink or use drugs, the less likely girls are to believe that each of these behaviors leads to a more severe form of substance use.

Declines in girls' beliefs in the gateway theory are related to increases in their marijuana use. Among girls making the transition from high school to college, those who demonstrate the greatest decline in the beliefs that drinking or smoking will lead to marijuana use or that marijuana use will lead to the use of other illegal drugs, also demonstrate the greatest increase in marijuana use.[114]

Substance Use Attitudes:
CASA Survey Findings

- Girls' attitudes and beliefs about substance use vary with age. Older girls are likelier than younger girls to believe that:
    - smokers and drinkers do as well in school as nonsmokers and nondrinkers;
    - smoking helps people relax and drinking alcohol helps people deal with being bored, sad or depressed;
    - smokers or drinkers will eventually use marijuana; and
    - it is easy to get addicted to smoking.
- The transition from:
    - elementary to middle school is when the greatest increase is seen in girls' belief smoking and drinking are ways to disobey adults.
    - middle to high school is when the greatest increase is seen in girls' belief that drinking alcohol is cool.
    - high school to college is when the greatest increase is seen in girls' beliefs that smoking cigarettes helps people relax and that drinking alcohol helps reduce boredom, sadness and depression.
- Girls who think smoking helps people relax reported more smoking. Those who think it makes people look cool or who do not believe that it is easy to become addicted show a greater increase in smoking across transitions.
- Girls who think that drinking alcohol helps people deal with being bored, sad or depressed report more alcohol use.

Substance Use Attitudes:
Other Key Findings

- Females are likelier to use substances to alleviate negative mood, reduce tension, cope with problems, boost confidence, lose inhibitions, enhance sex and lose weight.
- Males are likelier to use substances for sensation seeking or for social purposes related to enhancing their social status.

Stress and Poor Coping Increase Risk

Life stress, often linked to negative life events, is associated with substance use initiation and continued use, particularly for girls and young women.[115] One of the most common reasons given by girls in grades five through 12 for engaging in substance use is stress relief, and this is particularly true of those who are depressed or who had been abused.[116] Girls participating in CASA's focus groups frequently cited stress as a reason why people would use drugs. The types of coping mechanisms girls use to deal with stress also relate to their risk for substance use.

> *Q: What do you think makes people want to take these drugs?*
>
> *A: Kids' parents get divorced and they're mad and they do it.*
>
> --Preadolescent Girl (11-to 12-years old)
> CASA Focus Group

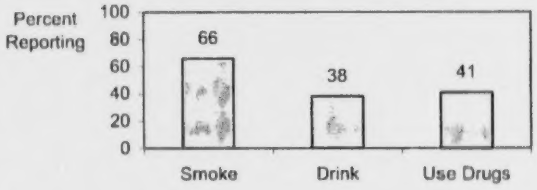
Stress

Stressful life events, such as death or illness among family or friends, parental divorce or changes in school or in relationships are related to substance use, particularly among girls who have drug-using peers or who do not rely on their parents for support.[117]

Girls are more likely than boys to respond to stress with substance use, particularly smoking.[118] Sixty-six percent of girls report stress relief as the main reason why they smoke, 38 percent report it as the main reason why they drink and 41 percent report it as the main reason why they use drugs.[*] [119] (Figure 5.J)

Females and males tend to react to stress differently,[120] with females internalizing reactions to stress by becoming depressed or withdrawn and males externalizing stress by becoming aggressive and engaging in delinquent behaviors.[121]

Figure 5.J
Stress Relief as Main Reason for Girls' Smoking, Drinking or Using Drugs



Source: The Commonwealth Fund. (1997).

For girls, the combination of low self-esteem and stressful life events makes depressive symptoms more likely,[122] increasing their risk of substance use.[123] In contrast, boys who are aggressive or delinquent but also depressed are less likely to smoke than those who are not depressed, perhaps because their inclination to smoke to demonstrate rebelliousness is inconsistent with feelings of depression.[124]

There appear to be racial/ethnic differences in the relationship between stress and substance use. A study of black teenage girls found that those who reported ever smoking in their lifetime experienced significantly more daily life "hassles" or stress in the past week--particularly with regard to academics/school and family/economic troubles--than girls who reported never smoking.[125] Furthermore, black girls in this study who reported more daily life hassles also began smoking at a younger age.[126] Other research suggests that racial discrimination, which increases life stress, may be related to the smoking habits of black girls.[127] The experience of discrimination also may lead to depression and low self-esteem which are both related to smoking among girls.[128]

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[*] No comparable data were obtained for boys.

CASA's focus groups with preadolescent girls revealed that girls as young as eight-years old already feel tremendous stress and pressure to achieve academically. Girls frequently cited substance use as a potential source of relaxation and distraction from these pressures. A study of sixth and seventh grade girls in an affluent community also revealed that academic stress and pressure was a key pathway to substance use.[129]

> *I'm worried about the stress that's on her because.... it's very stressful at school, and then with all the activities...they have to be exhausted, and then they still have homework. A lot of times, it's from the time you get up until 11 o'clock at night....The day is full. I know she's feeling pressure. She's said it a couple of times.*
>
> --Parent of Girl (11- to 12-years old)
> CASA Focus Group

Coping

Good coping skills help protect against adolescent substance abuse.[130] CASA's *Formative Years* survey found that the types of coping skills girls use vary quite a bit with age. Older girls are likelier than younger girls to cope poorly, such as dealing with a serious problem by either waiting and hoping things will get better, avoiding the problem by not thinking about it or, at times, by using alcohol or drugs specifically to make themselves feel better. Eighth graders were the least likely of the girls to deal with their problem by talking it over with someone.

According to CASA's *Formative Years* survey, girls who reported in the first interview that in the face of a serious problem they tend to wait and hope things will get better or they tend to use alcohol or drugs to make themselves feel better, were somewhat likelier to report more alcohol use, binge drinking and illegal drug use at the second interview, after the transition. Those who reported in the first interview that they engage in more adaptive coping methods--such as talking with someone about their problem--reported drinking and binge drinking less at the second interview than girls who used this coping strategy less often.

One might think that if girls experienced negative consequences from alcohol use, they would try to reduce their drinking to avoid these problems in the future. However, CASA's analysis of data from the *National Longitudinal Study of Adolescent Health (Add Health)* found that girls who reported more alcohol-related trouble or problems* during the first interview were actually likelier to report using more alcohol, binge drinking and getting drunk at the second interview than those who reported less troublesome consequences.† [131] These findings suggest that adverse consequences of alcohol use may not be a deterrent to future alcohol use. Rather, alcohol use may increase the risk of negative consequences, which the teen then copes with by drinking even more alcohol.

Physical or Sexual Abuse Increase Risk, Particularly for Girls

Childhood maltreatment, including sexual and physical abuse, has a considerable impact on substance abuse among girls and young women.[132] More than one in five (21 percent) high school girls report having experienced sexual (12 percent vs. five percent of boys) or physical (17 percent vs. 12 percent of boys) abuse.[133] Girls who have been sexually or physically abused are twice as likely to smoke (26 percent vs. 10 percent), drink (22 percent vs. 12 percent) or use drugs (30 percent vs. 13 percent) as those who were not abused.[134] (Figure 5.K)

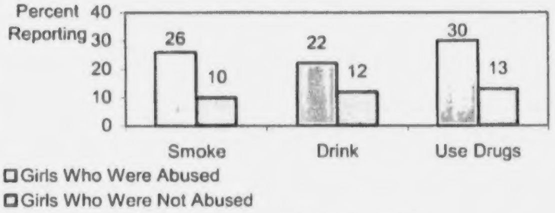
---

* Defined as frequency of getting into trouble with parents, having problems with school or school work, having problems with friends or boyfriends, doing something they later regretted or getting into a physical fight because of their alcohol use.

† Statistically controlling for alcohol use at the first interview.

Figure 5.K

Smoking, Drinking or Using Drugs by Physical or Sexual Abuse



Source: The Commonwealth Fund. (1997).

Substance use is one type of coping strategy that can provide escape from painful childhood experiences and serve as a means of self-medication to reduce feelings of isolation and loneliness.[135] The more adverse experiences a child has with abuse[*] and household dysfunction,[†] the higher that child's risk of smoking, drinking and drug use in adulthood.[136]

Substance use in child maltreatment victims might represent an attempt to manage the low self-esteem that is so common in this population.[137] Abuse by family members also may propel children to join deviant peer groups where substance use is more prevalent.[138]

Studies of teenage girls find earlier initiation of substance use and more excessive use among those who have been sexually victimized.[139] More than twice as many girls as boys in treatment for drug abuse report current physical or sexual abuse (36 percent vs. 16 percent).[140] Nearly twice as many girls in drug treatment who had a history of sexual abuse began using alcohol before the age of 11 compared to those who had no history of abuse (39.5 percent vs. 22.3 percent).[141] In addition, sexually abused girls are approximately three-and-a-half times likelier to use sedatives, tranquilizers, painkillers and opiates regularly[‡] than girls who were not abused.[142]

Among adolescents in drug treatment, nearly twice as many girls as boys report experiencing sexual or physical abuse in their lifetime (57 percent vs. 31 percent), with 36 percent of girls (vs. 16 percent of boys) reporting abuse in the year prior to treatment.[143] Girls in treatment are likelier than boys in treatment to be diagnosed with severe alcohol dependence.[144] Sexually abused teens report significantly more anxiety, loneliness and depression than nonabused adolescents,[145] all of which are significant risk factors for substance use and abuse.

The long reach of childhood victimization can be seen in studies of adults as well. Women who were sexually or physically abused in childhood are significantly more likely than nonabused women to drink, get intoxicated, experience alcohol-related problems and alcohol dependence symptoms and to abuse psychoactive prescription and illicit drugs.[146]

Sexual abuse appears to pose the greatest risk to female alcoholism; childhood sexual abuse increases the risk of later alcohol dependence symptoms.[147] More than two-thirds (70 percent) of alcoholic women seeking treatment have experienced some form of childhood sexual abuse compared to one-half (52 percent) of nonalcoholic women seeking mental health treatment and only one-third (35 percent) of women in the general nontreatment-seeking population.[148] Women who were sexually abused as children are more than three times likelier to have symptoms of alcohol dependence and over two-and-a-half times likelier to abuse drugs than their nonabused counterparts.[149] Women in substance abuse treatment with a history of sexual victimization report earlier initiation of inhalant use and being intoxicated at an earlier age than do women in treatment who do not have a history of sexual abuse.[150]

---

[*] Recurrent physical, emotional or sexual abuse.

[†] Having lost a parent during childhood or growing up in a household with a family member who either is in prison, an alcohol or drug abuser, a victim of violence, and/or chronically mentally ill.

[‡] At least once a month in the past year.

Stress and Coping: CASA Survey Findings

- Older girls are likelier than younger girls to cope poorly either by waiting and hoping things will get better, avoiding the problem by not thinking about it or by using alcohol or drugs specifically to make themselves feel better.
- Girls who tend to wait and hope things will get better or who use alcohol or drugs when faced with a problem are somewhat likelier to report more alcohol use, binge drinking and illegal drug use.
- Girls who report that they engage in more adaptive coping methods--such as talking with someone about their problem--drink and binge drink less than girls who use this coping strategy less often.

Much of the research on the relationship between sexual victimization and substance abuse is based on studies with clinical samples of adults (e.g., adult women involved in treatment for substance abuse, women in counseling for sexual abuse), which limits the extent to which findings can be generalized to the nonclinical population. Several general population surveys, however, also have found a link between victimization and substance abuse. In a national survey, women reporting a history of childhood sexual victimization were significantly likelier than women without such a history to have consumed alcohol in the past 30 days (43.6 percent vs. 27.4 percent), to have been intoxicated at least once in the past twelve months (30.4 percent vs. 15.9 percent), to report problems associated with drinking (23.1 percent vs. 8.3 percent) and to display symptoms of alcohol dependence (18.8 percent vs. 5.8 percent).[151]

In addition to sexual abuse, alcoholic women are likelier to have suffered from parental violence, particularly by their fathers. Nearly half (45 percent) of the alcoholic women seeking treatment in one study reported severe violence from their father compared with 13 percent of women in the general population.[152] Even witnessing violence during childhood without actually experiencing it is related to substance use and abuse.[153] Girls who witnessed violent acts--such as a robbery, physical attack, rape or murder--during their lifetime without experiencing it themselves were more than twice as likely to report tobacco and marijuana use than those who had neither witnessed nor experienced violence.[154] Girls who experienced violence themselves but had not witnessed it in others were two to three times likelier to report tobacco, alcohol and drug use.[155] Not surprisingly, those who both experienced and witnessed violence were at the greatest risk for substance use.[156]

Stress and Coping: Other Key Findings

- Stress relief is one of the most common reasons given by girls for engaging in substance use--this is particularly true of those who are depressed or have been abused.
- Girls are likelier than boys to respond to stress with substance use, particularly smoking.
- Females internalize reactions to stress by becoming depressed or withdrawn, whereas, males tend to externalize stress by becoming aggressive and engaging in delinquent behaviors.
- Childhood maltreatment, including sexual and physical abuse, is one of the greatest risk factors for substance use among girls and young women.

Chapter VI
Pathways: Family, Culture and Community

A child's family, cultural background and the community in which she lives all contribute to her substance-related attitudes and behavior. Abundant research demonstrates that parents hold one of the most important keys to children's decisions of whether or not to smoke, drink or use drugs.[1] Girls appear to be more responsive than boys to parental influences on substance use.[2]

CASA's *Formative Years* survey demonstrates that the worse a girl's relationship with her parents, the earlier her initiation of alcohol use and the greater her likelihood of drug use. In contrast, girls who communicate openly with their parents about the dangers of substance use are significantly less likely to be substance users. The majority of girls (61.6 percent) in our survey who reported having conversations with their parents about substance use said that the conversations made them less likely to smoke, drink or use drugs.

Unfortunately, many parents are not communicating their disapproval of substance use to their daughters effectively. More than one-third of the girls and young women in CASA's *Formative Years* survey said that their parents "didn't really care or mind" when they found out that their daughters were smoking, drinking or using drugs. This is in stark contrast to the less than five percent of girls who predicted that their parents wouldn't care or mind if they found out their daughters were engaging in substance use.

CASA's survey found that more frequent attendance at religious services among girls is associated with less smoking, drinking, binge drinking and drug use. Likewise, the greater importance girls attach to religion or spirituality, the less substance use they report. Religiosity typically is more protective against substance use for females than it is for males.[3]

Black and Hispanic girls who have a strong ethnic identity are at reduced risk of substance use.[4] Immigrant girls and young women who take on American norms and values rather than maintaining those of their originating culture are at increased risk for substance use.[5] Girls living in troubled neighborhoods are likelier to smoke, drink and use drugs than those living in safer neighborhoods.[6] Frequent moving to new homes or neighborhoods increases the risk of substance use to a greater extent for teenage girls than for teenage boys.[7] Ready availability of drugs or alcohol in a neighborhood also increases this risk.[8] Teenage girls are likelier than teenage boys to report that cocaine, crack, LSD and heroin are easy to obtain.[9]

Family Influences on Girls' Substance Use and Abuse

A family history of substance use and abuse, a poor parent-child relationship, and permissive parental attitudes and behaviors all increase the risk of children's substance use.[10]

Substance-abusing girls are likelier to come from troubled or dysfunctional families than substance-abusing boys.[11] This may be because girls are likelier than boys to see family members as role models.[12] Girls also tend be more exposed to and involved in family-related problems than boys and are likelier than boys to experience distress or depression in the face of such problems.[13]

A Family History of Substance Abuse Increases Risk

A family history of substance abuse is among the strongest risk factors for alcohol and drug use.[14] It is unclear from existing research if a family history of substance abuse is more or less deleterious for females than males.[15] Some research suggests that a family history of alcoholism is a stronger predictor of alcohol dependence symptoms in women than in men.[16] Women's risk for alcoholism is higher if both parents were heavy drinkers, whereas the risk for men is primarily related to their fathers' heavy drinking.[17] Other research finds that alcoholic fathers tend to increase the risk for alcoholism in both their daughters and their sons, whereas the risk associated with maternal alcoholism seems to be more limited to daughters.[18] There is some evidence that children model the health-risk behaviors of their same-sex parent,[19] which may help to explain the different levels of risk between females and males found in these various studies. However, much of this research is based on studies of children living in two-parent families and fails to account for children who abuse substances but do not reside with a same-sex parent.

A Poor Parent-Child Relationship Increases Risk

Children, teens and young adults who have positive relationships with their parents report less substance use than children with less optimal parent-child relationships.[20] CASA's *Formative Years* survey found that girls in the youngest age cohort--fifth and sixth graders--tended to report somewhat better relationships with their parents than older girls. The survey also found an association between girls' descriptions of their relationships with their parents and their own substance use; the worse the relationship with their parent, the earlier their reports of alcohol use initiation and the greater the likelihood of past year illegal drug use, including the nonmedical use of prescription drugs such as Ritalin.

CASA's analysis of underlying data on girls from the *National Household Survey on Drug Abuse (NHSDA)* found that girls with highly involved parents[*] and parents who provide positive feedback[†] are significantly less likely to smoke, drink or use drugs.[21] Likewise, girls who feel they can communicate with their parents and who do not have frequent arguments with their parents are significantly less likely to smoke, drink or use drugs.[22]

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[*] Parents who check their homework, set curfews, monitor their friendships, etc.

[†] Parents who tell their daughters that they're proud of them.

Girls with strong family bonds are less likely to have substance-using peers, making them less likely to use alcohol.[23] This relationship between a strong family bond and having fewer peers who use drugs appears to be more protective for girls than for boys.[24] Girls also tend to report better family communication than boys.[25] Throughout the teen years, girls communicate more frequently and more openly than boys with their parents, particularly their mothers.[26] Teens who report open lines of communication with at least one parent or parental figure have lower levels of cigarette, alcohol, marijuana and cocaine use.[27] One explanation for the more open communication that girls have with their mothers may be that mothers are likelier than fathers to initiate communication and children may model their same-sex parent's communication style.[28]

In making decisions, girls report being more influenced by their mother's opinions whereas boys report greater susceptibility to their father's opinions.[29] Furthermore, boys tend to view relationships with fathers as more supportive than do girls.[30] Female college students tend to report more conflict with their mothers than male college students; increased conflict between mother and child is linked to problems related to substance use and abuse.[31]

Studies on gender differences in the impact of the parent-child relationship on children's substance use are few and far between. However, studies examining parent-child relationship effects on substance use that do not make particular gender distinctions shed light on the important role parents play in their daughters' and sons' substance use attitudes and behaviors. According to CASA's survey of teens, *Back to School 1999--National Survey of American Attitudes on Substance Abuse V: Teens and Their Parents*, teens with an excellent relationship with either parent had risk scores for substance use that were 25 percent lower than the average teen; those with excellent relationships with both parents had risk scores 40 percent lower.[32] The level of importance that young people place on the parent-child relationship and their perceptions of the relationship also are important determinants of their risk for substance use. Teens who value positive relationships with their parents and who are satisfied with those relationships report significantly less substance use than teens who do not, particularly if they are involved with substance-using peers.[33]

Inadequate Parent-Child Communication About Substance Use Increases Risk

Open and honest parent-child communication is critical for helping to prevent children from engaging in substance use. CASA's *Formative Years* survey found that the majority of girls (84.7 percent) reported having conversations with their parents about substance use. CASA's analysis of data on girls from the *1999 National Household Survey on Drug Abuse (NHSDA)* found that girls who talked with their parents specifically about the dangers of tobacco, alcohol and drugs were significantly less likely to use these substances.[34]

Parents' Awareness of Their Daughters' Substance Use. CASA's *Formative Years* survey asked respondents who admitted to smoking, drinking or drug use whether they thought their parents knew about their substance use. The majority of girls said that their parents were aware that they had smoked (89 percent), drank alcohol (87 percent) and used drugs (59 percent). In all cases, however, eighth grade girls were the least likely of the four cohorts to report that their parents were aware of their substance use. When asked which parent was aware of their substance use, the majority (83 percent) said that both parents were aware. Fifteen percent said that only their mother (or mother figure) was aware and two percent said that only their father (or father figure) was aware of their substance use.

Actual and Anticipated Parent Reactions to Learning of Daughters' Substance Use. When asked how their parents felt when they found out their daughter was using tobacco, alcohol or drugs,[*] 43.1 percent responded that their parents were disappointed, but an alarming 35.2 percent responded that their parents "didn't really care or mind." Only 6.6 percent said that their parents responded with anger. These actual responses from parents are very different from their anticipated responses. Girls whose substance use had not yet been found out by their parents were asked to predict how they thought their parents would respond if they found out their daughter was smoking, drinking or using drugs. When the case was hypothetical, 65.1 percent of the girls responded that their parents would be disappointed, 29.7 percent said they would be angry and only 4.6 predicted that their parents wouldn't care or mind. (Figure 6.A)[*]

---

[*] Due to space constraints, this set of survey items did not distinguish between types of substances used or discussed.

> *Q: How can parents take care of their kids when it comes to talking about drugs, any ideas?*
>
> *A: Talk about it early.*
>
> --Preadolescent Girl (8- to 10-years old)
> CASA Focus Group

The Timing of Substance Use Conversations. CASA's *Formative Years* survey found that, in most cases, the girls reported that the first time they had a conversation about substance use, it happened when their parents approached them (66.4 percent) rather than when they approached their parents (33.6 percent) to discuss substance use. Younger girls were likelier to approach their parents to discuss substance use than older girls. (Figure 6.B)

Effects of Conversations About Substance Use. The majority of girls in our survey who reported having conversations with their parents about substance use said that the conversations made them less likely to smoke, drink or use drugs (61.6 percent). Less understandable were the 13 percent of girls who said that the conversations made them more likely to engage in these behaviors. Twenty five percent said that the conversations had no effect on their substance-use behaviors. These responses varied somewhat with age.[35] (Figure 6.C)

Figure 6.A

Actual vs Anticipated Responses From Parents Upon Learning of Daughters' Substance Use

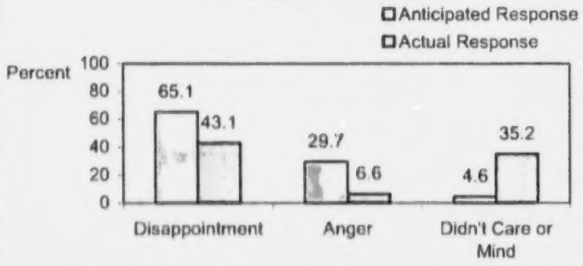
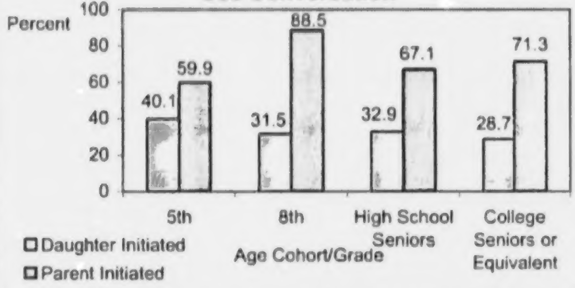


Figure 6.B

Parent vs Daughter Initiated Substance Use Conversation



Half the girls surveyed (50.8 percent) reported that in the conversations they had with their parents about substance use, their parents told them things about tobacco, alcohol or illegal drugs that they did not already know. Not surprisingly, the extent to which this is true declines with age.[36] (Figure 6.D)

According to CASA's survey, *Back to School 1999--National Survey of American Attitudes on Substance Abuse V: Teens and Their Parents*, nearly two-thirds (63 percent) of teenage boys and girls report having had a serious discussion with their parents about the risks of using illegal drugs.[37] Thirty five percent of teens who have had such discussions with their parents said they

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[*] Data presented for Figures 6A-6E are from the first interview.

Figure 6.C

Effects of Conversations with Parents on Daughters' Substance Use

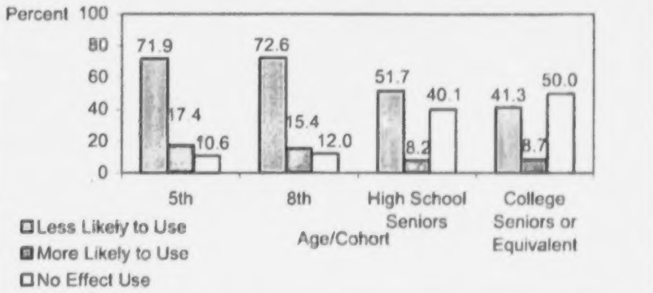
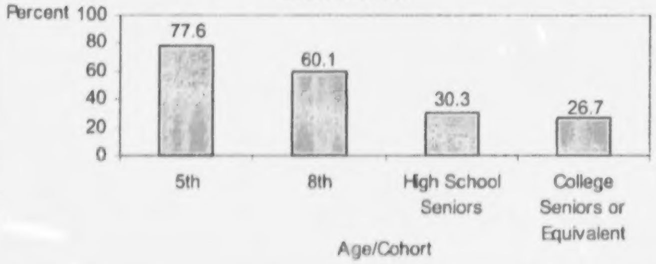


Figure 6.D

Parents Told Daughters Something They Didn't Know



learned a lot about the risks of illegal drugs from them and 30 percent said the discussion influenced their decision of whether to use drugs.[38]

According to a 1999 survey by the Partnership for a Drug Free America, more than half (57 percent) of all parents spoke with their children about drugs at least four times in the past year, up from 44 percent in 1998.[39] Parents also are more likely to talk about specific risks of drug use than in the past.[40] Furthermore, when asked what risks they associate with drug use, teenagers consistently rank "disappointing their parents" as a major risk.[41]

Parents' Perceptions of the Benefits of Discussing Substance Use With Their Daughters. Parents participating in CASA's focus groups generally seemed to believe that they were a strong influence in their daughters' lives and over their daughters' decisions to smoke, drink or use drugs. Parents of younger girls (ages eight to 10) emphasized the importance of establishing and maintaining open communication with their daughters in general and as a way to prepare them to make decisions about drug use in the future. They also emphasized the importance of talking to their children about smoking, drinking and drug use "starting now" because they felt that they would continue to lose influence over their daughters as they grew older.

Girls in CASA's focus groups frequently cited their parents, and especially their mothers, as the most trustworthy source of information about cigarettes, alcohol and drugs; the source that tells them the most about why they should not take drugs; and the source they would feel most comfortable talking with about drugs.

In their conversations with their daughters, parents reported discussing appropriate and inappropriate uses of alcohol and providing their daughters with examples of the consequences of using drugs drawn primarily from real life and television. Parents of older preadolescent girls (ages 11 to 12) expressed a desire to discuss the reasons why people use drugs with their daughters and voiced concern that their daughters were not taught in school about the reasons people choose to use drugs.

Several parents displayed a tendency to defer responsibility to D.A.R.E. and other school-based prevention programs to teach their children about drugs and their consequences. A number of parents responded to questions such as "Can you talk to your daughters about alcohol?" or "Do they know about heroin and cocaine?" with answers such as "They get a lot of information at school about drugs and alcohol and the dangers of it." Another parent responded, "the D.A.R.E. program covered all the drugs."

Parent-child communication focusing specifically and solely on substance use in the absence of overall parental engagement may not have much impact to deter teens from smoking and drinking.[42]

> *Q: Are there sources of information that you don't believe or don't trust?*
>
> *A: When it comes from people who are still doing it. My mom says, 'Don't drink, don't smoke, don't do drugs.' But I say 'If you do it, why can't I do it?'*
>
> --Preadolescent Girl (11- to 12-years old)
> CASA Focus Group

Parents' Substance Use Behavior and Attitudes Strongly Influence Their Daughters

Parents who smoke, use drugs, abuse alcohol or demonstrate permissive attitudes about substance use put their children at risk for smoking, drinking and using drugs.[43]

Parents' smoking and drinking behaviors may be a stronger influence on teens' tobacco and alcohol use than parents' attitudes about these substances, suggesting that, "what parents communicate nonverbally by what they do is more important than what they say."[44]

> *More important than anything parents say is what they do...It won't work for parents to start talking to their kids about drinking 'responsibly' when they themselves cannot go to a party without coming home drunk, or come home and not have a 'drink before dinner.' We have to be honest with ourselves if we are to be honest with our children.*[48]
>
> --Ralph I. Lopez, M.D., Author,
> *The Teen Health Book: A Parents' Guide to Adolescent Health and Well-Being*

Girls in CASA's focus groups expressed some distrust of substance-related information or advice received from adults who themselves smoke, drink or use drugs. The girls also expressed confusion over the conflicting messages sent to them by substance-using parents or adults. For instance, one focus group participant wanted to know "Why are they telling us not to do it if they're doing it?"

Many encourage substance use by their own permissiveness about alcohol use. For example, 18 percent of teens (25 percent of 15- to 17-year olds) have attended a party in the past two years at which parents purchased alcohol for them or served alcohol to them.[45] One study found that fifth graders who were permitted to drink alcohol in the home were twice as likely to be current alcohol users two years later than those who were not permitted to drink alcohol in the home.[46]

A survey of 582 female and male clients in drug treatment found that one in five had used illicit drugs* with their parents, the majority (59 percent) when they were under age 17, and approximately five percent were introduced to illicit drugs--primarily marijuana--by a parent.[47]

Parents often display different attitudes about substance use to their daughters than to their sons. Parental disapproval of smoking has a stronger impact on girls--making them less likely to smoke--than on boys.[49] One study found that approximately 23 percent of girls and 30 percent of boys were permitted to consume alcohol at home and that more boys than girls perceive a lack of rules against drinking (41.8 percent vs. 37.8 percent) and a lack of monitoring of their alcohol use (38.9 percent vs. 34 percent).[50]

The link between consistent messages of parental disapproval of substance use and lower rates of children's substance use is strong.[51] Five times as many teens (45.9 percent) who say their parents would neither approve nor disapprove of their smoking one or more packs of cigarettes a day are current smokers compared to teens who say their parents would strongly disapprove (8.9 percent). Three times as many teens (40 percent) who say their parents would neither approve nor disapprove of their having one or two alcoholic drinks nearly every day currently use alcohol compared to teens who say their parents would strongly disapprove (13 percent). Five times as many teens (26.9 percent) who say their parents would neither approve nor disapprove of their trying marijuana once or twice are current marijuana users compared to teens who say their parents would strongly disapprove (4.9 percent).[52]

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* Seventy-six percent report using marijuana, 19 percent report using crack and 16 percent report using cocaine with their parents.

Unengaged Parents Increase Risk

Parents who do not monitor their children's activities or remain consistently involved in their lives put their children at risk for substance use.[53] Parents are likelier with daughters than with sons to make sure that they know where their daughters are and with whom, to make family rules clear, to discuss instances of misbehavior, to praise achievements and to refrain from disparaging them.[54] Parents generally are less likely to allow their daughters to get away with misbehaving.[55] Girls who perceive parents as highly disapproving of substance use or who believe there would be disciplinary consequences from parents should they use substances experiment with fewer drugs and get high less frequently than other girls.[56]

A study of urban minority sixth-graders found that parental monitoring was protective for girls and boys with regard to smoking but more protective for boys with regard to alcohol use.[57] This study also found that frequently eating dinner with the family was associated more strongly with less delinquency among girls than among boys, highlighting the importance of this family activity for protecting girls from substance use and other risky behaviors.[58] Indeed, CASA's *National Survey of American Attitudes on Substance Abuse* have repeatedly found that the more often teens have dinner with their parents, the less likely they are to smoke, drink or use drugs.[59]

Although degrees of parental monitoring may not differ significantly between girls and boys,[60] there is some evidence that girls perceive themselves to be more highly monitored by parents than do boys.[61]

Girls are More Vulnerable to Changes in Family Structure

The very few studies that have examined the impact of family structure on female versus male substance abuse seem to suggest that girls are more vulnerable to this influence than boys. A girl who lives with her unmarried mother or with a mother who has undergone changes in marital status is more likely to engage in substance use in young adulthood than is a boy living under the same conditions.[*] [62] In general, girls tend to be more distressed by marital dissolution than boys.[63]

Substance-Using Siblings Increase Risk

Older siblings are an important influence on younger siblings' substance use attitudes and behaviors.[64] Supportive sibling relationships help protect against substance use, whereas having a drug-using sibling increases the risk.[65] Girls tend to view sibling relationships as more supportive than boys[66] and are more inclined to rate siblings as significant figures in their lives.[67] Children with older drug-using or drug-approving siblings initiate drug use at younger ages than children with siblings who do not use drugs.[68] For girls, having an older sister who smokes is significantly related to girls' smoking across different age groups, whereas having an older brother who smokes is not.[69]

CASA's *2002 National Survey of American Attitudes on Substance Abuse VII: Teens, Parents and Siblings*, found that the 67 percent of teens with an older sibling who say their older brothers or sisters would be "very angry" to find out they were using marijuana were at a substantially lower risk of substance abuse.[70] The 12 percent of teens with an older sibling who report that an older brother or sister had offered them illegal drugs or encouraged their use are at almost twice the risk of substance abuse as the average teen.[71] Finally, the 48 percent of teens with an older sibling who believe that sibling may have tried illegal drugs are one and a half times likelier to smoke, drink or use illegal drugs than the average teen.[72]

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[*] This study is referring only to black girls.

Religion and Spirituality Help Reduce Risk, Particularly for Girls

Research consistently demonstrates the protective role religion plays in preventing adolescent substance use,[73] a role that is particularly strong for females.[74]

CASA's *Formative Years* survey found that more frequent attendance at religious services among girls is associated with less drinking and less binge drinking. Likewise, the greater importance girls attach to religion or spirituality, the less drinking and binge drinking they report. CASA's analysis of data on girls from the *National Household Survey on Drug Abuse (NHSDA)* found that the more frequently girls attend religious services, the less likely they are to report using tobacco, alcohol or marijuana.[75] Among female college students, religiosity is related to less alcohol consumption and fewer drinking-related problems.[76]

Not only do girls tend to be more religious than boys and to hold more favorable attitudes towards religion,[77] but religiosity typically is more protective against substance use for females than it is for males.[78] One study of Catholics found that a stronger intrinsic sense of religious orientation is associated with less drinking and fewer alcohol-related problems among young women, but not among young men.[79]

Once girls engage in substance use, their commitment to religion may diminish. Substance use has been found to negatively affect religious commitment in girls but not in boys.[80] This may be because drug use is less socially acceptable for females and girls may find their drug use behavior to be too discrepant with their religious involvement.[81] Therefore, they may reduce their religious commitment so that they can more comfortably continue to use drugs.[82] This also may be due to the lower importance of religion for many boys than girls.

Studies examining religion and substance use that do not make specific gender distinctions also find a strong relationship between religion and substance use. According to CASA's report, *So Help Me God: Substance Abuse, Religion and Spirituality,* teens who do not consider religious beliefs important are almost three times likelier to drink, binge drink and smoke, almost four times likelier to use marijuana and seven times likelier to use illicit drugs than teens who strongly believe that religion is important.[83] Teens who never attend religious services are more than twice as likely to smoke, twice as likely to drink, more than three times likelier to use marijuana and binge drink and almost four times likelier to use illicit drugs as teens who attend religious services at least weekly.[84]

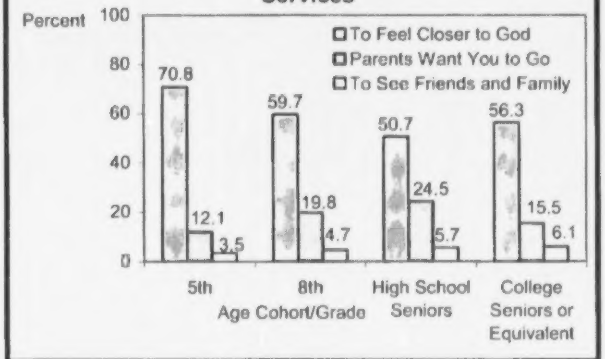
The Importance of Religion and Spirituality Varies With Age But is Greater for Girls Than Boys

CASA's *Formative Years* survey found important differences in the roles of religion and spirituality in the lives of girls of different ages. Girls of all ages generally reported that religion or spirituality is very important to them. However, the level of importance appears to decline with age.[85] Younger girls reported significantly more frequent attendance at religious services than older girls.[86] Fifth grade girls reported the highest level of importance and high school senior girls reported the lowest level of importance--a pattern that remained consistent even after the girls transitioned to the next year.

When comparing fifth grade, eighth grade and high school senior girls, there is a decline as girls grow older in the number of girls who report going to services to feel closer to God. At the same time, there is an increase with age in the number of girls who report going to services because their parents want them to do so. Comparing young adult women to high school senior girls, we find an increase in reports of going to services in order to feel closer to God and a sharp decline in reports of going to services because their parents want them to do so. (Figure 6.E)

Figure 6.E

Main Reason for Attending Religious Services



Racial/Ethnic Differences in Religiosity and Substance Use

The relationship between religiosity and substance use varies not only by gender but by race and ethnicity as well.[87] Blacks' level of religiosity--both in terms of the importance of religion in their lives and their frequency of attending religious services--typically is higher than that of whites.[88] CASA's *Formative Years* survey found that the level of importance black girls placed on religion or spirituality was significantly greater than that of white or Hispanic girls. Another study found that black girls are more likely to report attending church than black boys.[89] Alcohol use among black girls is lower among those who report more service attendance.[90]

Ethnic and Cultural Factors Influence Risk

Marked differences in substance use and the risk factors for substance use can be found among girls and young women from different racial, ethnic and cultural backgrounds.

Parents of black and Asian American children--two groups with relatively low rates of substance use--tend to have more restrictive alcohol use norms than white parents.[91] Black and Asian-American teens tend to perceive less parental approval of alcohol use[92] and black teens are considerably less likely than white teens to be involved in their parents' alcohol use--for example, their parents are less likely to allow them to pour or serve drinks.[93]

Black parents tend to monitor their children's activities and friendships more than white parents[94] and Hispanic students are less likely than white students to be left alone after school to care for themselves.[95]

Asian-American teens are the likeliest to come from intact homes and have the lowest rates of substance use.[96] However, black children who also tend to use substances at lower rates than whites or Hispanics are the least likely to come from intact homes.[97] Yet, among blacks, single parent households often have close extended family ties that may help reduce the risk of teen substance use.[98]

A strong identification with one's racial and ethnic background is protective against substance use for female and male minority group members.[99] A recent study of seventh graders found that ethnic pride predicted less substance use among black, Mexican-American and mixed-ethnicity students.[100]

When individuals new to the United States adopt the attitudes, norms or behaviors of the larger society, while maintaining some connection to their original culture, they often experience cultural conflict between the norms and values of their originating and adopted cultures.[101] There is a strong and consistent link between substance use and this cultural conflict, especially among women.[102] Immigrant Mexican women are substantially more likely to abstain from substance use than Mexican-American women.[103] In one study, 75 percent of Mexican immigrant women abstained from alcohol but only 38 percent of third generation Mexican-American women abstained, an amount closer to the rate of abstention in the general U.S. population (36 percent).[104] Puerto Rican women who are more highly integrated into U.S. culture* have been found to be seven times likelier to use drugs than those who are not.[105]

Family and Cultural Pathways: CASA Survey Findings

- The worse a girls' relationship with her parents, the earlier her initiation of alcohol use and the greater her likelihood of drug use.
- Among girls who report having smoked, drunk alcohol or used drugs and whose parents had not yet found out, only 4.6 predicted that their parents wouldn't care or mind if they found out about their substance use.
- Among girls who report having smoked, drunk alcohol or used drugs, an alarming 35 percent say that their parents "didn't really care or mind" when they found out about their substance use.
- The majority of girls surveyed (84.7 percent) reported having conversations with their parents about substance use.
- Younger girls were likelier to approach their parents to discuss substance use than older girls, perhaps indicating that parents may not be initiating conversations about substance use with their daughters early enough.
- The majority (61.6 percent) of girls who reported having conversations with their parents about substance use said that the conversations made them less likely to smoke, drink or use drugs. However, over twice as many younger girls as older girls said that the conversations made them more likely to use substances.
- More frequent attendance at religious services among girls is associated with less drinking and less binge drinking.
- The greater importance girls attach to religion or spirituality, the less drinking or binge drinking

Family and Cultural Pathways: Other Key Findings

- Parents are likelier with daughters than with sons to make sure that they know whom their daughters are with when not at home, to make family rules clear, to discuss instances of misbehavior, to praise achievements and to refrain from disparaging them.
- Girls who perceive parents as highly disapproving of substance use or who believe there would be disciplinary consequences from parents should they use substances experiment with fewer drugs and get high less frequently than other girls; this is less true for boys.
- A girl who lives with her unmarried mother or with a mother who has undergone changes in marital status is more likely to engage in substance use than is a boy living under the same conditions.
- Having an older sister who smokes is significantly related to girls' smoking, whereas having an older brother who smokes is not.
- Religiosity typically is more protective against substance use for females than for males.
- Younger girls report significantly more frequent attendance at religious services than older girls.
- Stronger ethnic identity protects minority youth from substance use.
- The adoption among recent immigrants or children of immigrants of American values and behaviors increases the risk for substance use to a greater extent among females than among males.

The Community in Which a Girl Lives Influences Her Substance Use

Risk factors for youth substance use can be found within the neighborhood, school and larger community.[106] Neighborhoods and communities that are caring and supportive, provide positive role models, hold high expectations for achievement and encourage youth participation in events have been found to protect against substance use.[107] Neighborhoods and communities with higher rates of poverty, norms that encourage substance use and high levels of drug availability have been found to increase the risk for substance use.[108]

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* Measured by ability to speak, read or write English; use of English in the family, with friends and at work; English as media language preference; and more social involvement with whites vs. Hispanics.

There is some evidence that girls living in more troubled neighborhoods are likelier to smoke, drink and use drugs than those living in safer neighborhoods.[109] For example, teenage girls, ages 12 to 17, who report a lot of crime in their neighborhood* are likelier than those who do not to smoke (17.7 percent vs. 14.9 percent) and use marijuana (8.8 percent vs. 5.4 percent).[110] Likewise, those who report a lot of drug selling in their neighborhood† are twice as likely to be current smokers (24.2 percent vs. 12.4 percent) and current drinkers (23.8 percent vs. 12.3 percent) and three times as likely to smoke marijuana (13.4 percent vs. 3.7 percent).[111]

Socioeconomic Status

A study of tenth-grade girls found that those from affluent, suburban families had higher levels of tobacco, alcohol and marijuana use than those from inner-city families.[112] Thirty-five percent of suburban girls of higher socioeconomic status (SES) reported using tobacco, alcohol and marijuana at least once in their lives compared to only 15 percent of lower income, inner-city girls.[113] These findings may be due, in part, to the fact that affluent youth are more capable of purchasing drugs or are less frequently exposed to the dire consequences of substance abuse in their communities.[114] Differences in substance use also may relate to the higher levels of anxiety--a common correlate of substance use--that was reported by the suburban girls compared to the inner-city girls in this study.[115] Affluent seventh grade girls in one study exhibited higher rates of depression and anxiety symptoms than those typically found in less affluent populations.[116] The affluent girls at highest risk for substance use and other problems tended to lack adult after-school supervision and to feel low levels of closeness with their mothers.[117]

Frequent Moving Increases Risk, Especially for Girls

Frequent moving from one home or neighborhood to another may be related more strongly to substance use among girls than boys.[118] CASA's analysis of data from the *National Household Survey on Drug Abuse (NHSDA)* found that teenage girls who moved six or more times in the past five years were nearly three times likelier to report current smoking than those who had not moved at all during that time (35.3 percent vs. 13.5 percent); this difference was larger than it was for boys (21.6 percent vs. 13.4 percent). Girls who reported moving frequently also were likelier to report current alcohol use (25.4 percent vs. 16.1 percent); this difference also was larger for girls than for boys (19.9 percent vs. 16.8 percent). Frequent moving also was related to an increased risk of current marijuana use (14.1 percent vs. 5.4 percent) among girls; this difference was larger for girls than for boys (11.2 percent vs. 6.4 percent).[119]

Drug Availability and Drug Offers Differ for Girls and Boys

Boys generally have an easier time than girls obtaining tobacco, alcohol and drugs and are likelier than girls to receive offers to smoke, drink or use drugs.[120] Although males generally have more opportunities than females to use drugs like marijuana, cocaine, hallucinogens and heroin, once presented with the opportunity, equal numbers of males and females eventually will engage in drug use.[121]

Availability. One national study found that 13.1 percent of teenage girls (compared to 25.7 percent of teenage boys) under the age of 18 who smoke report that they obtained their own cigarettes by purchasing them in a store or gas station in the past 30 days.[122] Among teens who purchased their own cigarettes from these venues in the past month, more girls than boys (72.9 percent vs. 64 percent) reported that they were not asked to show proof that they were of the legal age of 18 to purchase cigarettes.[123] While teenage girls are less likely to obtain their cigarettes by purchasing them, a recent study found that they are 58 percent more likely than teenage boys to acquire cigarettes through noncommercial sources (e.g., getting them from friends or by getting someone else to buy them).[124]

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* Strongly agree vs. strongly disagree with this statement: there is a lot of crime in your neighborhood.

† Strongly agree vs. strongly disagree with this statement: there is a lot of drug selling in your neighborhood.

With regard to illicit drugs, teenage girls are likelier than teenage boys to report that cocaine, crack, LSD and heroin are fairly or very easy to obtain and are as likely as their male counterparts to report that marijuana is fairly or very easy to obtain.[125]

Offers. In the year 2000, 12.9 percent of teen girls and 18.6 percent of teen boys reported being approached in the previous month by someone selling drugs.[126] Girls are more likely to be offered drugs by a female acquaintance, a young female relative (i.e., sister, cousin) or a boyfriend, whereas boys are more likely to be offered drugs by a male acquaintance, a young male relative (i.e., brother, cousin), a parent or a male stranger.[127] [128] Girls are likelier than boys to receive a simple offer (e.g., "Do you want some?") or offers that minimize the negative effects of the drug.[129] Boys are likelier to receive offers that play up to the social image aspects of drug use.[130] Finally, girls are likelier to receive the offers in private places such as friends' homes; boys are likelier to receive the offers in public settings (e.g., park, street).[131]

Participation in Extracurricular Activities Reduces Risk

According to CASA's analysis of underlying data from the *1999 National Household Survey on Drug Abuse*, teenage girls who do not participate in any extracurricular youth activities are twice as likely to report current smoking as those who participate in three or more activities (25.5 percent vs. 12.4 percent). Girls not engaged in activities also are likelier than those engaged in three or more activities to drink alcohol (19.2 percent vs. 14.9 percent) and use marijuana (10 percent vs. 4.8 percent).[132]

CASA's *National Survey of American Attitudes on Substance Abuse VI: Teens* found that teens who work or hang out with friends after school are at the greatest risk for substance abuse,[133] while those who engage in structured after-school activities such as sports have a lower risk of substance use.[134] Tenth graders who do not participate in school-sponsored extracurricular activities have been found to be 35 percent likelier to have smoked cigarettes and 49 percent likelier to have used drugs than those who spend one to four hours per week in extracurricular activities.[135]

Community Pathways:
Key Findings

- Boys are likelier than girls to receive offers to smoke, drink or use drugs.
- Among teens who purchased their own cigarettes from a store or gas station in the past 30 days, more girls than boys (72.9 percent vs. 64 percent) report that they were not asked to show proof that they were of the legal age of 18.
- Girls are more likely to be offered drugs by a female acquaintance, a young female relative or a boyfriend, whereas boys are more likely to be offered drugs by a male acquaintance, a young male relative, a parent or male stranger.
- Girls are more likely to receive an offer to use drugs that is simple (e.g., "Do you want some?") or offers that minimize the negative effect of the drug.
- Frequent moving from one home or neighborhood to another is a stronger risk factor for substance use for girls than for boys.
- Teenage girls who do not participate in any extracurricular activities are twice as likely to report current smoking (25.5 percent vs. 12.4 percent) and are also likelier to drink alcohol (19.2 percent vs. 12.4 percent) and use marijuana (10 percent vs. 4.8 percent) than girls who are engaged in multiple (three or more) activities.

Chapter VII
Pathways: Peer and Social Influences

Peers can lead a girl down the path to substance abuse. The peer group is one of the most important influences on whether or not a girl or young woman will smoke, drink or use drugs.[1] Those with friends who smoke, drink or use drugs are more likely to do so as well.[2]

CASA's *Formative Years* survey found that as girls get older, they have increasing numbers of friends who smoke, drink regularly, use marijuana or use other illegal drugs and feeling increasing pressure to engage in these behaviors. The more friends a girl or young woman has who smoke, drink or use drugs, the likelier she is to do so.

Peers Influence Girls' Substance Use in Many Ways

Peers may influence one another's substance use by showing approval of smoking, drinking or drug use, by serving as role models for these behaviors or by applying pressure to engage in these behaviors.[3] Generally, girls are more vulnerable to the influence of peers to smoke and drink than boys.[4] This may be because girls tend to spend more time with friends and to be more involved in their peers' lives than boys.[5]

Social relationships among girls tend to be more intimate and exclusive than those of boys.[6] Girls experiencing problems or feeling stress are more likely than boys to seek social support outside of the family, particularly from a same-sex friend.[7] Girls are likelier than boys to perceive friends as helpful in providing social support, whereas boys tend to see formal supports, such as counselors and teachers as more helpful.[8]

Even though teens and college students consistently overestimate their peers' approval of and use of tobacco, alcohol and drugs, perceptions, even inaccurate ones, are very important influences on substance use.[9]

Peer Acceptance of Substance Use Increases Risk

High levels of smoking and drinking are strongly associated with perceptions that peers are smoking and drinking as well.[10] Teens who believe that their friends approve of smoking are more likely to become regular smokers.[11]

Peer Substance Use Increases Risk

According to CASA's *Formative Years* survey, as girls get older, they report having increasing numbers of friends who smoke, drink regularly, use marijuana or use other illegal drugs.[12] (Figure 7.A[*])

CASA's *Formative Years* survey found that the more friends a girl has who smoke cigarettes, drink regularly, use marijuana or use other illegal drugs, the likelier she is to smoke, drink, binge drink, use marijuana and use other illegal drugs herself.

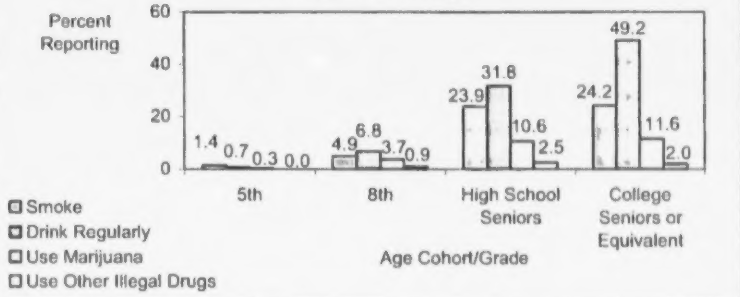
Peer substance use is an important predictor of female and male smoking, drinking and drug use.[13] Seventh and eighth graders in New Jersey with friends who smoke cigarettes are nine times likelier to smoke than their classmates without friends who smoke.[14] Those with friends who drink alcohol are seven times likelier to drink than their classmates without friends who drink.[15] Those with friends who use illicit drugs are more than ten times likelier to use drugs.[16]

Peer Pressure

Peer pressure to smoke, drink or use drugs may occur in the form of encouragement, dares or actual offers from peers of cigarettes, alcohol or drugs.[17] Teens who are susceptible to peer pressure[†] or report experiencing peer pressure[‡] consume more tobacco, alcohol and illicit drugs than those who experience less peer pressure.[18]

Figure 7.A

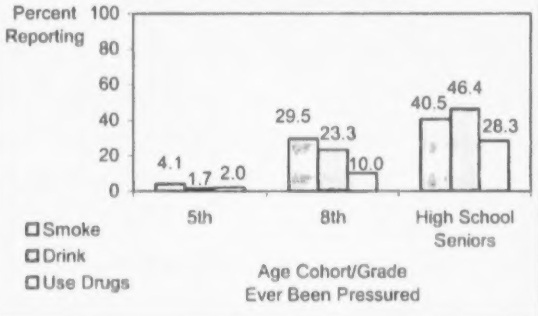
Girls' Report "All/Most" of Their Friends Smoke, Drink or Use Drugs



CASA's *Formative Years* survey found that girls' perception of pressure by other people their age to smoke, drink and use drugs increases as they progress through middle and high school: 4.1 percent of fifth graders report pressure to smoke, 1.7 to drink and two percent to use drugs; 29.5 percent of eighth graders report pressure to smoke, 23.3 to drink and 10 percent to use drugs; and 40.5 percent of high school seniors report pressure to smoke, 46.4 to drink and 28.3 to use drugs.[19] The greatest increase in the perception of peer pressure to drink or use drugs occurs during the transition from middle to high school. (Figure 7.B)

Figure 7.B

Girls' Experiences of Peer Pressure to Smoke, Drink or Use Drugs



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[*] Data presented in Figures A and B are from the first interview.

[†] Reporting, for example, that their "friends could push them into doing just about anything."

[‡] Reporting, for example, that they "often feel pressured to do things they wouldn't normally do."

The extent to which girls experience peer pressure to smoke, drink or use drugs also is strongly related to the number of friends they have who engage in those behaviors. Girls in CASA's survey who reported having been pressured to smoke, drink or use drugs were significantly likelier to have more substance-using friends than girls who reported not experiencing such pressure.

Another study of teen girls found that many initiated smoking at the urging of their friends and chose to continue to smoke to fit in with their peers.[20] Among those who wanted to quit smoking, fear of peer rejection or at least an expectation that peers would not be supportive of an attempt to quit led some girls to sustain their smoking behavior.[21]

A study of 11- and 13- year old girls found that those at the top of the social pecking order--the most popular girls--believe they are under more pressure to smoke than less popular girls, suggesting that peer pressure sometimes is due less to active influencing by peers and more to pressure to maintain a certain image.[22] Popular girls may use smoking as a means of bolstering an image of one who is rebellious, sophisticated and stands out from a crowd.[23] In contrast, popular boys in this study felt less pressure to smoke in order to be "cool" because smoking interfered with their main "cool" activity of participating in sports.[24]

Peer pressure may be more strongly associated with drinking for girls than it is for boys.[25] Middle school girls who report high peer pressure to drink are twice as likely to use alcohol as those who report low peer pressure to drink; this relationship between peer pressure and alcohol use was not found for boys.[26] When several of a girl's five closest friends smoke or drink, they are more than seven times likelier to drink alcohol. Boys who have several close friends who smoke or drink are almost three times likelier to drink.[27]

Female college students are more likely than male college students to resist peer pressure to drink alcohol.[28]

Racial/Ethnic Differences in Peer Influence

Peer influence varies among girls from different racial or ethnic groups.[29] Black girls, compared to black boys, have significantly fewer friends who smoke; white girls and boys have similar numbers of friends who smoke.[30] Hispanic girls have been found more susceptible to peer influences to use alcohol than Hispanic boys.[31]

**Peer and Social Influences:
CASA Survey Findings**

- As girls get older they report having increasing numbers of friends who smoke, drink regularly, or use drugs.
- The more friends a girl has who smoke, drink regularly, or use drugs, the likelier she is to do so herself.
- Girls' perception of pressure by other people their age to use substances increases with age.
- The greatest increase in girls' perception of peer pressure to drink or use drugs occurs during the transition from middle to high school.
- Girls who report having been pressured to smoke, drink or use drugs are significantly likelier to have more substance-using friends than girls who reported not experiencing such pressure.

**Peer and Social Influences:
Other Key Findings**

- Girls who are susceptible to peer pressure or who report experiencing peer pressure consume more substances than other girls.
- Popular girls are under more pressure than less popular girls to smoke cigarettes.
- Teens and college students consistently overestimate their peers' approval of and use of tobacco, alcohol and drugs.
- Peers appear to have more of an influence--both positive and negative--on substance use among white girls than on substance use among girls from other racial or ethnic groups.

Chapter VIII
Pathways: Marketing and the Media

Tobacco and alcohol manufacturers spend billions of dollars each year on advertising and promotions, sponsorships of events and product placements in movies and television shows. The tobacco industry has a long history of targeting its marketing efforts to young women, exploiting women's desire for independence and sophistication, and appealing to perennial female concerns about weight and appearance. Alcohol industry advertising makes drinking, and by association women who drink, appear fun and sexy. Alcopops and wine coolers, which are fruit-flavored alcoholic beverages, are particularly appealing to girls and young women.

Depictions of smoking and drinking in movies and on television are widespread and typically are portrayed without consequences. However, just as the glamorizing of substance use can affect children, preventative messages in the media can have an effect as well. Preadolescent girls in CASA's focus groups were more likely to cite television as a source from which they learn about the negative consequences of substance use rather than as a source from which they obtain positive substance-use messages.

Substance Use Portrayals in Marketing and the Media

American children and teenagers watch an average of 19 hours and 40 minutes of television per week.[1] Teens spend between four and five hours a day listening to music and watching music videos.[2] Youth ages 12 to 20 purchase 26 percent of all movie tickets in a year, although they make up only 16 percent of the population.[3] Sixty-two percent of youth ages nine to 17 say they watch a video at least once a week.[4] Given these numbers, it is not surprising that most researchers agree that media is among the most important agents of socialization influencing American teens and young adults.[5]

80

Because the media has such a hold on young people, they are natural targets for tobacco and alcohol marketing.[6] Cigarette- or beer-related cartoon logos, promotional materials handed out at concerts and sporting events, and the portrayal of attractive models and celebrities enjoying cigarettes and alcohol are among the many marketing strategies utilized by the tobacco and alcohol industries to make their products attractive to young people.[7] American youth are a major target audience for the alcohol industry's magazine advertising, with children under the age of 21 seeing more magazine advertisements for alcoholic beverages--particularly beer, alcopops and distilled spirits--than adults.[8] Almost one-quarter of alcohol advertising on television is more likely to be seen by youth than adults.[9] Because of this widespread marketing of alcohol to youth and the abundance of research findings on the detrimental effects of drinking on young people, the American Medical Association has recently called on networks and cable television to stop airing alcohol commercials that are appealing to youth or that appear on programs seen by underage viewers.[10]

Despite substantial research on the extent of the marketing of substances of abuse to youth, little research focuses on the influence of tobacco and alcohol marketing on the substance use beliefs and behaviors of girls and young women.

Marketing Substances of Abuse to Girls and Young Women

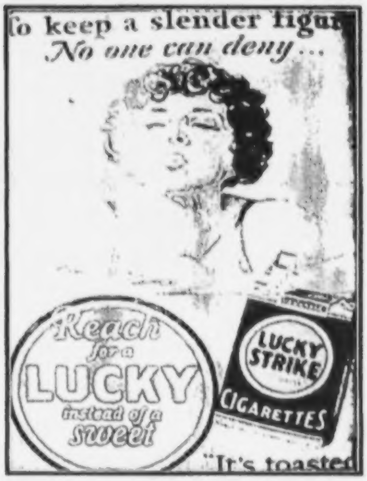
Exposure to tobacco and alcohol advertising influences young people's beliefs and attitudes about these substances and may ultimately influence their smoking and drinking behavior.[11]

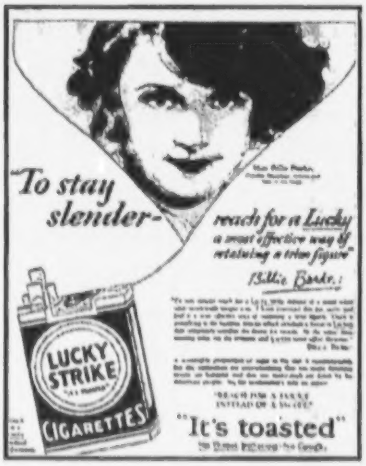
Tobacco. The marketing of cigarettes to women is an historically recent phenomenon. In the United States, smoking among women was long associated with loose morals. In the 18th and 19th centuries, women smokers were viewed as "fallen women."[12] In fact, in 1908, a woman was arrested in New York for smoking a cigarette in public.[13] The shift in public attitude toward women's smoking can be attributed not only to changes in women's social and economic status during the 20th century, but also to the efforts of tobacco companies to market cigarettes to women.[14]

Cigarette marketing strategies have been successful at attracting young women smokers. In 1926, *Chesterfield* cigarettes marketed their cigarettes to women with the slogan, "Blow some my way" which was associated with a 40 percent increase in sales.[15] Among girls 17 and younger, smoking initiation increased abruptly in 1967, the year that the tobacco industry began to place cigarette advertising in women's magazines.[16] From 1967 to the early 1970's, the smoking initiation rate jumped among 11- to 17-year old girls, peaking around 1973.[17] During this same time period, with the exception of 15- to 17-year old boys who showed a slight increase, the initiation rate for boys decreased slightly.[18]

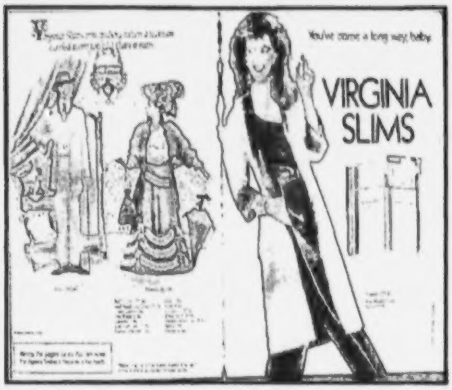
Generally, girls are the main targets for appearance-enhancing products and cigarettes often are marketed to girls and women as a means to control their weight. The overwhelming majority (86.4 percent) of commercials for appearance-enhancing products during cartoon programming are aimed at girls rather than boys.[19] Girls and young women who smoke to suppress their appetite are particularly vulnerable targets for the tobacco industry.

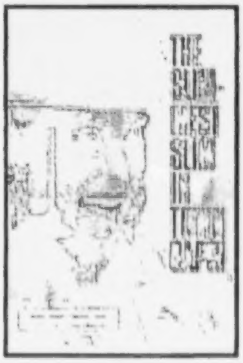
Tobacco companies understood the relationship between smoking and weight control long before public health experts. Some of the earliest advertising campaigns sought to associate women's cigarette smoking with some of the key motivations women reported for smoking: weight control and liberation, empowerment and equality.[20] For example, the 1925 *Lucky Strike* cigarette brand advertising campaign, "Reach for a Lucky instead of a sweet," was associated with a 200 percent increase in *Lucky Strike's* market share.[21]


o keep a slender figu
No one can deny...
Reach for a LUCKY instead of a sweet
LUCKY STRIKE CIGARETTES
"It's toaste


"To stay slender-
reach for a Lucky
a most effective way of retaining a trim figure"
Billie Burke
LUCKY STRIKE CIGARETTES
"It's toasted"

When the 1964 Surgeon General's report was released, highlighting the harmful effects of smoking, the male smoking market began to level off and tobacco companies began targeting women more vigorously.[22] Philip Morris launched *Virginia Slims* brand with the advertising theme, "You've come a long way baby" which played on the women's liberation movement. Advertisers began to use extremely slender models to promote their products. Another *Virginia Slims* tagline was: "Slimmer, longer, not like those fat cigarettes men smoke." The slogan for *Misty* cigarettes was "slim n' sassy." *Capri* ads claim, "There's no slimmer way to smoke" and call *Capri* cigarettes, "the slimmest slim in town."


You've come a long way, baby.
VIRGINIA SLIMS


THE SLIMMEST SLIM IN TOWN
CAPRI

Alcohol. Awareness of alcohol advertising among preadolescents is significantly related to more positive beliefs about drinking.[23] However, girls are aware of fewer beer brands and slogans than boys[24] and are less likely than boys to report that they intend to drink beer in the future.[25] In one study of beer advertisements, 70 percent of girls (and 91 percent of boys) responded correctly when asked what product the *Budweiser* frogs characters sell (the correct answer is beer).[26] This was especially striking when compared to the number of boys (96 percent) and girls (92 percent) who were able to identify the product sold by Tony the Tiger (*Frosted Flakes* breakfast cereal).[27] Experts agree that advertising exerts an influence on youth drinking patterns.[28]

A relatively recent addition to the product line of the alcohol beverage industry is a new breed of sweet-tasting alcoholic beverages, known as "malternatives" or "alcopops" (e.g., *Rick's*

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Spiked Lemonade, Tequiza, Hooper's Hooch, Smirnoff Ice, Skyy Blue). These beverages are fruit-flavored, malt-based drinks that come in colorful, child-oriented packaging. The sweetness and flavoring hide the taste of alcohol. Girls, ages 11 to 16 living in Wales, report drinking alcopops more frequently than any other alcoholic drink.[29] British teen girls are likelier than boys to prefer alcopops to other alcoholic beverages (56.4 percent vs. 37.1 percent).[30] The popularity of these drinks may stem, in part, from teens' assumption that they are less potent and have fewer negative physiological effects than beer.[31]

Most alcopop beverages have approximately five to seven percent alcohol by volume, a level that is comparable to beer. A survey by the Center for Science in the Public Interest found that 41 percent of teens, ages 14 to 18, have tried an alcopop. More than 80 percent of teens say that these beverages are easy to get if they want them.[32] Teens are three times more likely than adults to be familiar with these products and 17- and 18-year olds are more than twice as likely as adults to have tried them.[33] Twice as many 14- to 16-year olds prefer them to beer or mixed drinks.[34]

Portrayals of Tobacco and Alcohol in the Popular Media

Despite the evidence of the widespread use of positive portrayals of tobacco and alcohol use in the media, few studies have examined the connection between exposure to these substances and substance use among youth in general,[35] let alone among girls and young women.

Tobacco. Most studies examining tobacco portrayals in the mass media have focused on the movies, with fewer concentrating on television and virtually none on music lyrics or videos. The limited research related to smoking portrayals on television can be explained partly by the fact that cigarette advertising has been banned from television and radio in the United States since 1969.[36]

When actresses smoke cigarettes in films, girls and young women may be inclined to model their behaviors. Although smoking among major characters in the 200 most popular movies of 1996 and 1997 was less common among females than among males (21 percent and 28 percent), depictions of smoking were more frequent among actresses who appeared to be under age 18 than among actors who appeared to be under age 18 (19 percent and 14 percent).[37] A study examining a sample of movies from 1993 to 1997 found that the percentage of lead actors or supporting actors shown smoking was similar for females and males (42 percent and 38 percent); yet portrayals of smoking by men were 2.5 times more likely to be shown in R-rated or unrated films--which are less likely to be seen by youth--than in PG or PG-13 rated films.[38] In contrast, portrayals of smoking by female characters were as likely to be seen in PG or PG-13 rated films as in other films.[39]

Smoking in movies often is used as a means of portraying positive qualities. A study of 50 G-rated children's animated films from 1937 to 1987 found that cigarettes were used to signify independence and sexiness in characters,[40] qualities that may have a particular appeal to girls and young women. Lead Hollywood actresses tend to be portrayed using tobacco products to control their emotions, to manifest power or sex appeal, to enhance their self-image or to control weight.[41]

Alcohol. The majority of research concerning alcohol in the media and its effects on young people does not apply specifically to girls or young women; it tends to focus primarily on television rather than movies or music.[42] Alcohol use is featured prominently in television programming. From 1976 to 1984, portrayals of alcohol on television increased regularly, from 4.8 acts per hour in 1976, to 10.2 acts per hour in 1984.[43] Nearly two-thirds of episodes from a sample of television shows that aired in one season in 1986 contained some reference to drinking.[44] Among the top 20 television shows popular among teens and the top 20 shows popular among adults, 77 percent of the episodes include references to alcohol.[45]

Television programs often depict alcohol use with no direct consequences.[46] Characters who drink on television are more likely to be central characters, attractive and of higher status than those who do not drink.[47] The motivations for drinking on television often include coping with a crisis, easing social tensions or as a means of escaping from reality.[48]

The Instructional Value of the Media

Findings from CASA's focus groups with preadolescent girls and their parents present a positive slant to the media's potential influence on youth substance use. Girls in the focus groups were more likely to cite television as a source from which they learn about the negative consequences of substance use than a source from which they obtain positive substance-use messages.

> *On TV, on shows, you really see the consequences. Your parents, your teachers, they tell you not to do it. They don't... give you much detail of what can happen to you.*
>
> --Preadolescent Girl (11- to 12-years old)
> CASA Focus Group

Both young girls and their parents reported that portrayals of substance use in certain television shows and other media programming did have some instructional value. The family television show *Seventh Heaven* was one of the most frequently cited sources of information about drugs among the girls.

> *My daughter likes Seventh Heaven... They're introducing a lot of these issues, alcohol, drugs. And I like to watch it with her. So this way if she has any questions we can discuss it.*
>
> --Parent of 8- to 10-year-old girl
> CASA Focus Group

Parents in the focus groups worried about what their daughters were watching on television but frequently cited television as a source of positive and useful messages about the dangers of smoking, drinking and drug use. Parents noted that television often provided opportunities to begin a conversation with their daughters about substance use.

Marketing and the Media:
Key Findings

- The media reflects and reinforces the key motivations and expectations women have about smoking and drinking: that tobacco and alcohol use will help them manage negative mood and stress, boost their self-confidence and help them control their weight.
- Among girls younger than 17 years of age, smoking initiation increased abruptly in 1967, the year that the tobacco industry began to place advertisements for cigarettes in women's magazines.
- In the 200 most popular movies of 1996 and 1997, girls who appeared to be under 18 smoked more frequently than boys.
- British girls (ages 11 to 16) drink alcopops more frequently than any other alcoholic drink and are likelier than boys to prefer alcopops to other types of alcoholic drinks (56.4 percent vs. 37.1 percent).

Chapter IX

Prevention of Substance Use and Abuse Among Girls and Young Women

The closing of the gender gap for many forms of substance use and the differences between girls and boys in the pathways to substance use and abuse all underscore the need for prevention strategies that are effective for girls and young women.

Few programs exist that are designed specifically for girls and research on effective prevention strategies for girls is hard to come by. Compounding this problem is the growing belief among practitioners and researchers that the most commonly employed intervention approaches work better for boys than for girls.[2] Although primary care physicians are in a unique position to intervene early in the substance use of their young female patients, physician screening for adolescent substance use is uncommon.[3] Even when physicians do screen for substance use, they are unlikely to provide adequate guidance to their young patients.[4] Now is the time to replace one-size-fits-all prevention programming with comprehensive approaches tailored to the needs and circumstances of girls and young women.

> *Today we know that when a woman abuses alcohol or other drugs, the risk to her health is much greater than it is for a man. Yet there is not enough prevention, intervention and treatment targeting women. It is still much harder for women to get help. That needs to change.*[1]
>
> --Betty Ford
> Former First Lady

Common Prevention Strategies for Girls and Boys

Research focusing on gender-differences in prevention program effectiveness is relatively sparse; yet there has been some recent progress in identifying characteristics of prevention programs that appear to be effective for youth in general.[5] (Table 9.A)

What Works? Evaluating the Effectiveness of Prevention Programs for Girls and Young Women

While few programs are designed around factors that specifically and uniquely influence girls to use or refrain from using substances,[6] research does highlight some factors that may enhance the effectiveness of prevention programs for girls:

- **The Family.** Although family supervision and support are important in preventing substance use among both girls and boys, they are especially important for girls.[7]
- **The School.** Feeling connected to school may be a stronger predictor of school performance for girls at high-risk than for boys at high-risk.[8] This is especially meaningful when considering that poor school performance in adolescence increases the risk for alcohol and drug abuse in early adulthood.[9]
- **Female Role Models.** Programs that provide girls with positive female role models may improve intervention effectiveness for girls.[10]
- **Life Skills.** Since relationships and attachments to others are central to girls' growth and development,[11] the acquisition of life skills and social skills may be of particular importance to prevention programs for girls.[12]
- **Timing.** Prevention programs that begin early, in grades four through eight--generally before girls begin using substances--have been found to be especially effective for girls.[13]

Table 9.A

Effective Components of Prevention: Key Findings[*]

Program Content and Implementation:

- ✓ Address the personal, social and environmental factors that contribute to substance use.
- ✓ Emphasize the development of behavioral life skills.
- ✓ Strengthen social bonding with people in families, peer groups, schools and other realms who hold strong standards against substance abuse.
- ✓ Address multiple substances.
- ✓ Ensure that interventions are culturally sensitive and appropriate.
- ✓ Intervene early and at critical developmental stages.
- ✓ Intervene in settings that most affect risk and protection for substance abuse, including homes, schools, workplaces and recreational settings.
- ✓ Involve parents, caregivers and families.
- ✓ Utilize interactive methods, such as peer discussion groups.
- ✓ Implement strategies around a clearly defined prevention theory.

Program Duration:

- ✓ Offer the program over a sustained period of time.
- ✓ Reinforce interventions over time.
- ✓ For youth at high risk, provide for intense contact (more than four hours a week) and provide more than twenty hours of programming.

---

[*] Both the National Institute on Drug Abuse (NIDA) and the Office of National Drug Control Policy (ONDCP) have published research-based principles to guide the development and implementation of effective prevention programming. Some of the most salient findings from these guidelines, as well as findings from other research, are outlined here.

Serving girls alone does not, by itself, make a prevention program more effective for girls, especially if the program focuses primarily on feelings and emotions. In a recent multiple-site study of 48 substance abuse prevention programs across the country, the federal government's Center for Substance Abuse Prevention (CSAP) found that high-risk girls who were participating in programs designed to serve females only did not reduce their rate of substance use relative to girls participating in mixed-gender programs.[14] This may be because the female-only programs tended to emphasize "affective" activities--or activities focusing on self-esteem, self-awareness and attitudes, beliefs and values associated with substance use and other problem behaviors.[15] Nearly half of the female-only programs that CSAP examined spent more time on "affective" activities and content than any other type of program content, compared to just 10 percent of the nonfemale-only programs.[16] Prevention programs that emphasize "affective" issues do not appear to be effective for either girls or boys.[17]

On average, girls and boys at high risk may respond to prevention programs at different periods of time. Boys may be more likely to derive benefits from prevention programs (measured in decreased use of substances) while participating in such programs and these benefits may dissipate over time after program exit.[18] On the other hand, the substance use benefits derived from prevention programs may be more likely to appear among girls six- to 18-months after they exit a prevention program.[19] This indicates that in evaluating program success, results may vary for girls versus boys depending on the elapsed time.[20]

Programs produce comparable and lasting reductions in substance use rates for high-risk girls and boys when they:[21]

- focus on developing behavioral life-skills;
- are delivered in an interactive manner;
- employ "thought provoking and meaningful activities that encourage team building;"
- are delivered for a significant number of hours per week; and
- are planned and implemented around a clear prevention theory.

Programs and Program Models

CASA's review of prevention programs produced few examples of programs that have been designed specifically with girls in mind and even fewer examples of such programs that have been independently evaluated or that report outcome data by gender. Examples of three programs that have been designed to address the needs of girls are briefly described in Table 9.B and presented with further detail in Appendix E. Relevant outcome data is presented in Appendix E when available.

Table 9.B

Select Prevention Programs Designed for Girls

- ***Project Chrysalis*** – A school-based, voluntary, substance abuse prevention program targeted at girls in grades nine through 12 with histories of physical, sexual and emotional abuse.
- ***Friendly PEERsuasion*** – A substance abuse prevention program for girls ages 11 to 14. The program approaches drug abuse prevention for girls primarily as a peer issue.
- ***Girl Power!*** – A 32-week, after-school-based substance abuse prevention program for girls ages 10 to 15.

Physician Screening

Primary care physicians are in a unique position to help contribute to substance use prevention among girls and young women by identifying and intervening early in the substance use and abuse behaviors of their young female patients. Adolescent girls rely heavily on their doctors or health care professionals for information about their health.[22] In a large survey of youth in grades five through 12, smoking, drinking and drugs appeared among the ten most frequently cited health topics that girls felt their doctors should discuss with them.[23] Yet this same survey found that less than 30 percent of adolescent girls identified smoking (27 percent), drinking (23 percent) or drug use (28 percent) as topics their doctors actually did discuss with them.[24]

Physician screening for adolescent substance use is uncommon.[25] Only 29 percent of pediatricians and 39 percent of family practitioners report asking about alcohol use for 81 to 100 percent of their patients, ages 12-years old and over.[26] Only 28 percent of pediatricians and 23 percent of family practitioners report routinely inquiring about drug use for 81 to 100 percent of their patients, ages 12-years old and over.[27]

A study of California primary care physicians found that over 90 percent of physicians screened both their younger and older adolescent patients for high blood pressure--a low prevalence condition among youth--more frequently than they screened for more prevalent problems such as smoking (75.8 percent of younger adolescents[†] screened and 86.3 percent of older adolescents[‡] screened) and drug use (74 percent of younger adolescents screened and 82.4 percent of older adolescents screened).[28] Other studies show that even when physicians do screen for substance use, they are unlikely to provide guidance to their young patients.[29]

CASA's survey of primary care physicians, *Missed Opportunity: National Survey of Primary Care Physicians and Patients on Substance Abuse*, found that even when presented with the symptoms of drug abuse in teenagers (red eyes, runny nose, frequent sore throat, headache, chronic fatigue, loss of appetite, loss of interest in school and worsening relations with parents), 40.8 percent of pediatricians failed to mention substance abuse as a potential diagnosis, even given five potential choices.[30] When presented with these symptoms in a fictional female patient, pediatricians were more likely to diagnose depression (62.9 percent) than illegal drug use (50.6 percent). However, when presented with these symptoms in a fictional male patient, pediatricians were likelier to diagnose illegal drug use (64.4 percent) than depression (52.2 percent).[31] Furthermore, female pediatricians were far more likely to mention substance abuse for male patients (78.3 percent) than for female patients (40.7 percent), whereas male pediatricians were somewhat more likely to mention substance abuse for female patients (66.7 percent) than for male patients (55.9 percent).[32]

One of the barriers to physician screening for adolescent substance abuse is a lack of a widely accepted screening tool.[33] Certain youth screening tools have been found to be inappropriate for primary care settings due to their length or their sole focus on alcohol use to the exclusion of drug use.[34] Others, though appropriate for adults, have been found to be ineffective for youth.

A review of screening tools conducted by CASA identified only a few that may be potentially beneficial in identifying substance abuse in both girls and boys. These include the RAFFT,[35] the CRAFFT [36] and the slightly longer Drug and Alcohol Problem Quick Screen (DAP).[37] These screening tools may be useful for a general teen or young adult population, have been validated and have relatively brief administration times. For example, the CRAFFT is administered verbally and consists of only six questions: *Have you ever ridden in a* ***C****ar driven by someone (including yourself) who was "high" or had been using alcohol or drugs? Do you ever use alcohol or drugs to* ***R****elax, feel better about yourself, or fit in? Do you ever use alcohol or drugs when you are by yourself,* ***A****lone? Do you ever* ***F****orget things you did while using alcohol or drugs? Do your* ***F****amily or friends ever tell you that you should cut down on your drinking or drug use? Have you ever gotten into* ***T****rouble while you were using alcohol or drugs?* Similar to the CRAFFT, the RAFFT contains five questions. It does not contain the "Car" or "Forget" questions in the CRAFFT, and it separates the question about family and friends into two separate items.

[†] Ages 11 to 14 years.

[‡] Ages 15 to 18 years.

The DAP is a pencil and paper test containing 30 yes or no items that assess substance use relationships with parents and parents' use of tobacco, alcohol and drugs. The test has four key items: *Do you use tobacco products? Have you ever had an in-school or out-of-school suspension for any reason? Do you sometimes ride in a car driven by someone (including yourself) who is high or appears to have had too much to drink? Had anyone ever told you that they believe that you might have had a drinking or drug problem?*

None of the available screening tools incorporate questions that are sensitive to the different gender-based risks for substance abuse.

Media Campaigns to Prevent Substance Abuse: Targeting Girls and Young Women

In an effort to counteract the harmful media messages being delivered to today's youth, state and government funded organizations issue public service announcements and commercials designed to steer children and young adults away from tobacco, alcohol and drug use. In 1998, the Office of National Drug Control Policy (ONDCP) created the *National Youth Anti-Drug Media Campaign* with the goal of educating and empowering youth to reject drug use, but this campaign did not address tobacco or alcohol use. In early 2000 the American Legacy Foundation, which was established as part of the 1998 tobacco Master Settlement Agreement (MSA), launched *Truth*, a national tobacco counter-marketing campaign aimed at providing youth with facts about nicotine addiction and the tobacco industry's marketing practices.

Some of these prevention campaigns use female icons in hopes that girls will identify with them and their anti-substance use messages. Others offer positive alternatives to smoking, drinking and drug use that might appeal to girls. Yet others discourage substance abuse by instilling fear of the damage that tobacco, alcohol and drugs can have on girls' bodies, their ability to interact socially and on their relationships with their families.

The use of popular female athletes, musicians and actors in these prevention campaigns attempt to provide young women with substance-free idols to emulate. The goal is for these female celebrities to deter girls and young women from substance use by demonstrating the level of athletic, musical or theatric achievement they have accomplished in the absence of substance use. For example, ONDCP and the Partnership for a Drug-Free America have campaigns that feature Jessica Simpson, a popular teen singer, and Venus Williams, a top tennis player, declaring that they are against drug use.

I don't smoke weed

There are no drugs on Planet Venus.

The Anti-Drug campaign suggests healthy alternatives to drug use. It features female children and young adults whose involvement with sports, art or other activities offer reasons not to abuse harmful substances. Slogans such as "Dance: My Anti-Drug" are meant to inspire

dance
MY ANTI-DRUG.

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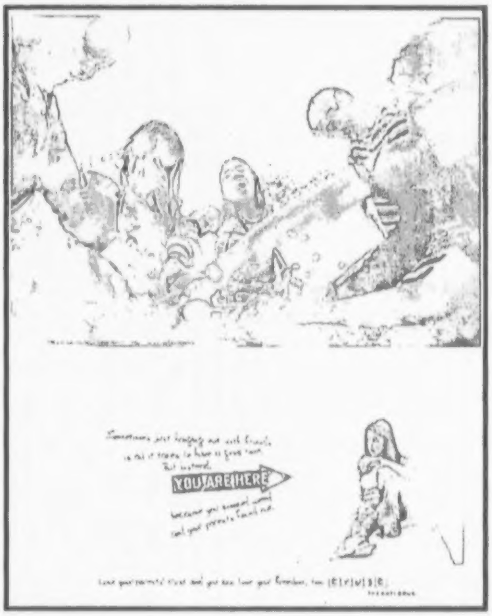
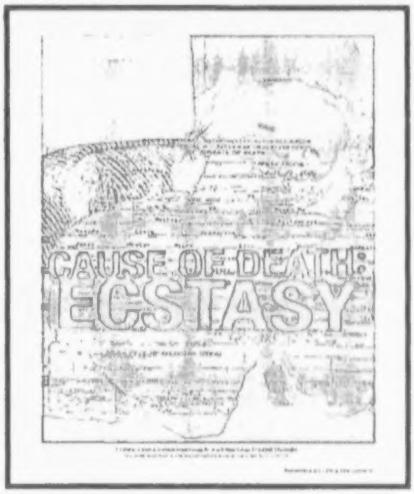
young women to participate in healthy, constructive activities and avoid substance use.

Television, radio and print campaigns also try to instill fear in young audiences by showing the toll substance abuse can take on their social lives and on their families. "Trust," part of the Anti-Drug campaign, depicts a young girl sitting alone in her room while her friends are out having fun. The slogan says, "Lose your parents' trust and you can lose your freedom, too." This advertisement depicts the decision to use drugs as a sacrifice of parental trust resulting in a loss of freedom to socialize with one's peers.


YOU ARE HERE
Lose your parents' trust and you can lose your freedom, too.

An older television advertisement portrayed an attractive teenage boy making his way toward a pretty girl at a crowded party. As he approaches, the girl lights a cigarette and the boy turns away in disgust. The girl is left with a disappointed look on her face.

Some campaigns target young females with messages such as, "If you smoke weed, it probably won't kill you. But it'll kill your mother." Another ad plays off the well known "this is your brain on drugs" spot in which an egg is shown frying in a pan. In the more recent version, a girl smashes an egg ("your brain") with a frying pan ("heroin") and then proceeds to smash everything else in the kitchen crying out that this is what your body, family, friends, money, job, self-respect and your future go through when you're on heroin. It ends with the famous line, "Any questions?"



Yet another prevention campaign strategy relies on fear appeals. These advertisements target young females by providing visual and written messages describing the adverse effects of drugs on the female body.

> *Once upon a time there was a girl named Wendy who was very beautiful and very happy and had a lot of friends, but then one day she did some heroin and got addicted and lost everything and then she died. The end.*[38]
>
> --The Partnership for a Drug-Free America

Finally, some ads are aimed at parents, encouraging them to talk to their children about drugs, to monitor their children's friends and behaviors and to be aware of the tremendous impact they have on their children's decision to use drugs.

involved in my life

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Prevention Media Campaigns Can Be Effective

Girls participating in CASA's focus groups cited anti-drug advertising campaigns as sources from which they learned about reasons not to use drugs as well as good sources of information about drugs.

> *Q: What are good ways to learn about these things [drugs]?*
>
> *A: Commercials that show you not to do drugs and that give you examples of kids on the drugs and their future.*
>
> --Preadolescent Girl (11- to 12-years old)
> CASA Focus Group

Although many of these media prevention campaigns clearly are memorable and emotional,[39] their impact on youth substance use is less clear. For example, a recent report by ONDCP cited no evidence that the *Anti-Drug* campaign is working to reduce youth drug use despite earlier evidence that it has resulted in statistically significant increases in awareness of specific ads.[40] There is some evidence that anti-drug advertising by the Partnership for a Drug-Free America reduced the probability of teen marijuana and cocaine/crack use.[41]

The American Legacy Foundation's *Truth* campaign exhibits the most promising initial results.[42] Exposure to the *Truth* campaign was associated with a 35 percent increase in the odds of agreeing with the statement "I want to get involved in efforts to get rid of smoking" and a 163 percent increase in the odds of agreeing with the statement "taking a stand against smoking is important to me."[43] Among nonsmokers, agreement with these statements was strongly and negatively associated with intention to smoke.[44]

More research is needed to examine the effects of prevention media campaigns on youth in general and on girls and young women in particular.

Prevention: Key Findings

- Prevention programs for girls are more likely to be effective when they:
  - take a comprehensive approach involving parents, caregivers and families;
  - emphasize life skills, social skills and social norms;
  - provide female role models;
  - implement programs in grades four through eight; and
  - promote school connectedness (especially for girls at high risk).
- In a large survey of youth in grades five through 12, smoking, drinking and drugs appeared among the ten most frequently cited health topics that girls felt their doctors should discuss with them; yet less than 30 percent of adolescent girls identified smoking, drinking or drug use as topics their doctors actually did discuss.
- One of the barriers to physician screening for adolescent substance abuse is a lack of a widely accepted screening tool, particularly one that is sensitive to gender differences in the risks for and signals of substance use.
- Prevention media campaigns abound and are memorable; however, their effectiveness remains questionable.

Chapter X

Treatment for Substance-Abusing Girls and Young Women

Few programs exist that specifically address the treatment needs of substance-abusing girls and young women and few studies have evaluated the effectiveness for girls and young women of current smoking cessation and substance abuse treatment programs.

Effective smoking cessation programs stand to help prevent the estimated 152,000 deaths among women from cigarette smoking every year.[1] Eighty percent of female smokers want to quit smoking.[2] Although more girls than boys report wanting to quit smoking and trying to quit smoking,[3] they are no more likely than boys to be successful at quitting.[4] Girls may be likelier than boys to respond well to smoking cessation programs that include social support from the family or peer group[5] since girls who have stronger bonds with their family and friends are likelier to quit smoking.[6] Addressing weight concerns also is important to achieving successful smoking cessation among girls and young women. Among college students who attempt to quit smoking, 20 percent of females (vs. seven percent of males) cite weight gain as the reason for relapse.[7]

In 2001, eight percent of teenage girls needed treatment for an alcohol or illicit drug problem and 1.3 percent received treatment; for boys, 7.6 percent needed treatment and 1.8 percent received it.[*][8]

There is an urgent need for more research aimed at developing and evaluating substance abuse treatment programs that are effective for girls and young women.

---

[*] Treatment in drug and alcohol rehabilitation facilities (inpatient or outpatient), hospitals (inpatient only) or mental health centers.

Smoking Cessation Among Girls and Young Women

When women quit smoking they considerably reduce their risk of dying prematurely.[9] Smoking cessation is beneficial at all ages, although women who stop smoking at younger ages experience relatively greater benefits.[10] A 1999 Gallup poll of adults ages 18 years and older revealed that 80 percent of women (vs. 72 percent of men) indicated that they would like to give up smoking.[11]

Adolescent girls who smoke may have a slightly stronger desire to quit than their male counterparts. Among current smokers, 58.7 percent of girls in middle school (vs. 51.5 percent of boys) and 62.9 percent of girls in high school (vs. 59.2 percent of boys) want to stop smoking cigarettes.[12] Middle school (65.6 percent) and high school (63.3 percent) girls also are significantly likelier than middle school (54.7 percent) and high school (55.2 percent) boys to have made an attempt to quit smoking in the past year.[13] Other research finds that girls are no more likely than boys to successfully quit smoking.[14] A study of smoking among adolescents in Australia found that adolescent girls were only half as likely as adolescent boys to quit daily smoking.[15]

Young adult and adult women also are no more likely than men to successfully quit smoking.[16] A recent national survey found that women 18 years of age and older quit smoking at rates slightly below those of men: 50 percent of males who have ever smoked[†] indicated that they had quit compared to 47.3 percent of females who have ever smoked.[17]

Two examples of smoking cessation programs that are designed specifically with girls and young women in mind and that report some outcome data by gender are listed in Table 10.A and outlined in more detail in Appendix F. CASA's comprehensive review of smoking cessation programs did not yield any other examples of programs that are designed with girls or young women in mind and that report outcome data.

Table 10.A

Select Female-Specific Smoking Cessation Programs

- **Not On Tobacco (N-O-T)** – A school-based, voluntary smoking cessation program for teens, ages 14 to 19, who are regular smokers and are likely to be addicted to nicotine. Administered in separate groups for girls and boys. Outcome data show that girls who completed the program were likelier to quit smoking than girls in a comparison group.
- **Teen FreshStart with Buddy** – A smoking cessation program for pregnant adolescents. The program relies on peer support. Outcome data show that girls who completed the program smoked less than girls in a comparison group.

The American Legacy Foundation recently launched a national initiative on women and smoking that, while not geared specifically to girls and young women, may hold some promise for curtailing smoking among them. The program's national advertising campaign features parting letters to the families and friends of women battling tobacco-related illnesses like emphysema, lung cancer and throat cancer. Its goal is to raise awareness of the toll tobacco has taken upon women and encourage women to seek help to quit smoking. Another element of the initiative, *Great Start*, is a national media campaign aimed at reducing smoking during pregnancy.

Motivations for and Barriers to Girls' and Young Women's Smoking Cessation

For both women and men, the main barrier to smoking cessation is physical addiction to the nicotine in tobacco products.[18] Females and males share many similarities in the factors promoting their smoking behavior;[19] their motivations for wanting to stop smoking; their readiness to stop smoking; and their general awareness of the harmful effects of smoking.[20]

[†] Smoked ≥ 100 cigarettes during their lifetime.

Adolescent girls and boys also identify similar reasons for why they would quit smoking.[21]

Nevertheless, certain factors beyond physical addiction are especially important in promoting or hindering smoking cessation among females. For example, smoking is reinforcing to women both because of the physical effects of nicotine and because of the subjective sense of comfort and relaxation derived from the act itself; these subjective experiences are not as reinforcing for men.[22] Because females are responsive to these nonnicotine-related reinforcing effects of smoking, nicotine replacement therapies (NRT) for smoking cessation may be less effective for females than for males.[23]

Pregnancy. Certain medical risks unique to women smokers have long been recognized as smoking cessation motives for women, especially those risks related to pregnancy and the use of oral contraceptives.[24] A larger percentage of women quit smoking during pregnancy, either spontaneously or with assistance, than at any other time in their lives.[25] Whether this is true for pregnant adolescent girls is uncertain.[26]

Smoking cessation programs for pregnant adult women appear to be somewhat effective, especially when compared with no intervention at all.[27] Yet research indicates that as many as 33 percent of women relapse before delivery.[28] Younger women in particular are at high risk for relapsing before delivery.[29] Other studies show that up to two-thirds of women relapse within one year after delivery.[30] Postpartum relapse is likelier among women who have a partner who smokes, friends who smoke, concern about weight or a lack of confidence during pregnancy regarding being able to stay quit.[31] More research is needed to identify those factors that promote and hinder smoking cessation among pregnant adolescent girls.

Social Support. Social support during smoking cessation improves the chance of quitting successfully[32] and may be of particular importance to girls and young women. Girls are likelier than boys to respond well to smoking cessation programs that include social support from the family or peer group.[33] Young women cite social reasons for smoking cessation slightly more often than do young men.[34] Moreover, twelfth-grade girls who had smoked 11 to 20 times prior to the tenth grade were found more likely to quit smoking if they had stronger bonds with their school, family and friends.[35]

Concerns About Weight Gain. Women have a greater fear than men of gaining weight as a result of smoking cessation.[36] This fear is somewhat justified, as women do tend to gain more weight after cessation.[37] Young women are far more likely than young men to report weight gain as a cause of smoking relapse.[38] In one study of college students, 39 percent of female students and 25 percent of male students stated that smoking was a dieting strategy.[39] Among those in this study who attempted to quit smoking, 20 percent of females and seven percent of males cited weight gain as the reason for relapse.[40]

Some research indicates that women concerned about weight gain have poorer overall abstinence outcome and are more likely to drop out of cessation programs.[41] However, other research has found no relationship between weight concerns and smoking cessation among women and has found that actual weight gain during cessation does not predict smoking relapse.[42] The relationship between weight-related concerns, weight gain and smoking cessation outcome among girls and young women, therefore, requires further study.

Efforts to address adult women's weight concerns in smoking cessation programs have met with mixed success. Behavioral weight control programs, either combined with or in addition to smoking cessation programs, have been found to be relatively ineffective in terms of cessation outcome, and one study even found poorer smoking cessation outcome with the addition of weight control therapy to a smoking cessation program.[43] However, smoking cessation programs for girls might do well to address healthier and more effective methods of weight control.[44]

In place of weight control programs, some experts have recommended that smoking cessation programs for women should attempt to reduce their weight gain concerns.[45] Women ages 18 years and older who were concerned about their weight and who received cognitive-behavioral therapy to reduce weight concern (in addition to standard, group-based cessation counseling) achieved significantly higher abstinence rates at the end of treatment and during six and 12 month follow-ups[‡] than women whose weight gain concerns were not addressed.[46] Women in this study who received behavioral weight control therapy for the prevention of weight gain (in addition to standard, group-based cessation counseling) did not do better at the end of treatment or at any follow-up point than women receiving standard counseling treatment alone.[47]

Depression. Among adults, a history of depression or current depressive symptoms generally are associated with poorer smoking cessation outcomes, such as greater difficulty in attempts to quit smoking, more severe withdrawal profiles, failure to quit smoking and greater likelihood of relapse following cessation treatment.[48] How depression is related to smoking cessation outcome among girls has been largely unexplored.[49] Some research indicates that greater depression among adolescent smokers is associated with a lower likelihood of quitting.[50] More research is needed to clarify the role that depression plays in the smoking cessation outcome of adolescent girls.

Methods of Smoking Cessation

Several types of smoking cessation programs are employed by people trying to quit smoking. Information pertaining to the effectiveness and appropriateness of these various approaches for girls and young women is provided when available.

Self-Help Programs. Self-help approaches to smoking cessation usually involve written materials that include information on strategies for coping or that emphasize the importance of setting and preparing for a quit date.[51] These written materials can be disseminated easily as well as tailored to specific target audiences, such as girls and young women.[52] Few studies of the effectiveness of self-help programs have included girls and young women and even fewer have examined gender-specific differences related to self-help approaches.[53]

Cessation of Tobacco Use Among Females:
Key Findings

- A history of depression and current depressive symptoms are associated with failure to quit smoking in adult women.
- Young women are likelier than young men to express concern about gaining weight when quitting smoking and cite weight gain as a cause of smoking relapse.
- Girls are likelier than boys to respond to smoking cessation programs that include social support from the family or peer group.
- A larger percentage of adult women attempt to quit smoking during pregnancy than at any other time in their lives.

Minimal Clinical Interventions. Minimal clinical interventions for smoking cessation are designed to be integrated easily into routine care by doctors and other health professionals during office visits.[54] The United States Public Health Service has recommended a brief intervention of "Five A's" for physicians and other health professionals to incorporate into their practices: **A**sk about tobacco use; **A**dvise to quit; **A**ssess willingness to make a quit attempt; **A**ssist in quit attempt; and **A**rrange for follow-up.[55] The "Five A's" are consistent with guidelines established by the National Cancer Institute as well as the American Medical Association.[56] They are designed to require three minutes or less of direct clinician time.[57] They also are easily adaptable to the specific concerns of women smokers. For example, advising smokers to quit may include a discussion that is tailored to address reasons why women at various life stages should quit.[58] A woman who is newly married and interested in her fertility might be advised that smoking could have an adverse impact on fertility and pregnancy outcome.[59] To date, few minimal clinical interventions have been designed for women smokers in high-risk groups, such as those who use oral contraceptives or those with diabetes, heart disease, smoking-related cancer, obesity, eating disorders, depression or chemical dependence.[60]

[‡] But not at three months follow-up.

Brief interventions such as the "Five A's" have been shown to significantly improve smoking cessation outcomes among adult women and men.[61] They also may hold promise in improving smoking cessation outcome among adolescent girls. Adolescent girls rely heavily on their doctors for information about their health,[62] yet primary care providers often do not counsel their young patients about smoking. One study found that while 72.4 percent of doctors asked patients 11- to 21-years old whether they smoked, only 1.6 percent of office visits involved counseling about smoking.[63]

Intensive Clinical Interventions. Intensive clinical interventions consist of individual or group treatment over multiple sessions.[64] The most effective intensive clinical intervention approaches have been multicomponent cognitive-behavioral programs.[65] Women are somewhat likelier than men to use intensive smoking cessation programs.[66] Little is known about whether these programs would appeal to or be effective for girls and young women.

School-Based Interventions. School-based smoking cessation programs have shown mixed success and many have not evaluated their results by gender.[67] Boys are likelier than girls to report that they might participate in a cessation program at school.[68] Evaluations of a gender-specific school-based smoking cessation program--*Not On Tobacco (N-O-T)*--found that the program had a significant overall impact on youth smoking and may have been especially effective at helping adolescent girls to quit.[69]

Work-Based Interventions. Work-based programs may be especially useful in reaching a large segment of women, including young women in their late teens and early twenties. Participation in this type of a program has been found to increase the likelihood of quitting smoking by 58 percent when compared with control or comparison groups;[70] women and men who participated in the worksite smoking cessation programs were equally likely to stop smoking.[71] An analysis of one worksite smoking cessation intervention found that women in workplaces with smoking cessation interventions were 1.5 times as likely to stop smoking as women in comparison worksites.[72]

Community-Based Interventions. Community-based interventions focus on engaging entire communities in intervention activities to reduce smoking.[73] These interventions use a variety of strategies to engage the community, including media campaigns, educational programs, face-to-face interventions and telephone-quit lines.[74] These interventions have shown mixed rates of success and few differences in quit rates between women and men.[75]

One community intervention program targeted specifically at women found promising results for women ages 18 to 44 compared to women of the same age in matched comparison communities that did not receive the intervention.[76] This intervention, named *Breathe Easy*, actively involved community members in the planning and implementation of the intervention.[77] Intervention activities included telephone peer-support, support groups for women who had quit, an informational video on quitting smoking, monthly smoking cessation classes, newsprint, radio and television advertisements and health fairs.[78] Health professionals were introduced to *Breathe Easy* resources and encouraged to help their female patients set quit dates and make referrals to various smoking cessation community resources.[79] In addition, community college, technical and high school health educators, as well as businesses and worksites, also were introduced to *Breathe Easy* resources and materials.[80] During year five of the intervention, quit rates among women ages 18 to 44 in the intervention communities were higher (26 percent compared to 21.3 percent) than among women in nonintervention comparison communities.[81]

Treatment of Alcohol and Drug Abuse Among Girls and Young Women

Although the history of substance abuse and chemical dependency among women in the United States is centuries long, substance abuse typically has been viewed as a male problem.[82] Traditionally, substance abuse treatment programs were designed for and primarily served adult males.[83] Prior to the 1970's, few programs existed for women[84] and until the 1970's alcohol and drug abuse treatment for women received little attention in the research community.[85] Since that time, research on substance abuse treatment for women has expanded and knowledge of women's access and barriers to treatment as well as unique and gender-linked factors that may promote or hinder their treatment success and recovery has grown. The number of programs treating women has increased and growing emphasis has been placed on developing programs that address the needs of female substance abusers.[86] Many experts, however, continue to note the lack of treatment options and inaccessibility of treatment programs to women.[87] Furthermore, research on the effectiveness of substance abuse treatment programs for women remains in short supply. Research specifically addressing the treatment needs of substance-abusing girls and young women as well as the effectiveness of the programs that treat them is in even shorter supply.

Women develop alcohol-related problems at lower levels of drinking than men[88] and there is some evidence that adolescent girls who use marijuana are more likely than boys to need treatment.[89] Furthermore, girls are likelier than boys to experience physical and sexual abuse[90] and treatment programs with confrontational styles may be less appropriate for survivors of such abuse, as they may re-create scenarios typical of abusive relationships.[91] In addition, while pregnancy may motivate long-term change in substance use in young women,[92] pregnant and parenting women have special needs and face numerous barriers to treatment entry and participation, such as lack of childcare.[93] Because the window of time between the onset of regular drinking and the onset of problem drinking is shorter for women than for men, the need for early detection and intervention is even more critical.[94]

Access to Treatment

Girls and boys ages 12 to 17 report similar rates of substance abuse and receive treatment[§] at comparably low rates.[95] In 2001, eight percent of girls ages 12 to 17 reported illicit drug or alcohol dependence or abuse compared to 7.6 percent of boys.[96] In this same year, 1.3 percent of girls this age received treatment for an alcohol or illicit drug problem compared to 1.8 percent of boys.[97]

Motivations for and Barriers to Treatment

> *Barriers to entering drug abuse treatment programs that exist for women but not for men... include childcare difficulties and the predominance of male patients and staff. There is also more social stigma for women in being labeled an addict.*[98]
>
> --Roger Weiss, M.D.
> Clinical Director of the Alcohol and
> Drug Abuse Treatment Program
> McLean Hospital, Boston, MA

Treating girls for substance abuse presents challenges that do not apply to the treatment of adult women. Girls go through enormous physical, hormonal and emotional changes that contribute to stress and challenge their coping abilities. Many of the life stresses that lead to substance abuse in girls and young women are intricately connected with other problems such as co-occurring psychiatric disorders, emotional difficulties, dysfunctional family relations, physical or sexual abuse and parental abuse of alcohol or drugs. Each of these issues, when pertinent to the patient, must somehow be addressed in the treatment setting;[99] unfortunately, they rarely are.

[§] This includes treatment received in any location (such as hospital, inpatient or outpatient rehabilitation facility, mental health center, emergency room, private doctor's office, self-help group or prison/jail) in the past year to reduce or stop drug or alcohol use, or for medical problems associated with such use.

Treatment Approaches

A recent overview of treatment approaches and outcomes for adolescents noted that the research in this area was too general and the studies too variable to permit any meaningful insight into what types of treatment approaches work best for different youth.[100] Because so few studies examine the role of gender in treatment retention and outcome,[101] even less is known about the effectiveness of various treatment approaches for adolescent girls.

The most common approaches to addressing substance use disorders among adolescents are the 12-Step model and Therapeutic Communities and family-based approaches such as family therapy.[102] Other approaches applicable to young people include cognitive-behavioral approaches and brief interventions.[103] Given the paucity of research on the efficacy of these approaches for teens and young adults, it is difficult to draw any conclusions regarding their usefulness for youth in general or for girls and young women in particular.

One program that was designed to meet the needs of females is the Betty Ford Center.[104] The Center saves 50 percent of its space for women and offers gender-specific inpatient care for adult women with attention to issues such as eating disorders, a history of trauma, domestic violence, anger, self-esteem and shame.[105] A study conducted in the early 1990's found that women in the female-only program at the Betty Ford Center were more likely to remain sober for 12 months than women or men in co-ed treatment programs at the Center.[106] After this evaluation, the Center discontinued co-ed treatment and moved all women into the female-only program.[107] No independent outcome studies have been conducted on the Betty Ford Center's programs. However, the program's gender-sensitive design may serve as a useful model for other programs that treat girls and young women.

Treatment of Alcohol and Drug Abuse Among Females:
Key Findings

- Very limited treatment options are available to youth, particularly girls.
- Limited research is available on the treatment needs of substance abusing girls and young women or the effectiveness of programs.
- Treatment programs for substance abusing girls and young women must attend to:
  - **Early Detection and Intervention.** Because evidence suggests that the window of time between the onset of regular drinking and the onset of problem drinking is shorter for women than for men, the need for early detection and intervention is even more critical for women.
  - **Physical and Sexual Abuse.** Because girls are likelier than boys to experience physical and sexual abuse, it may be less appropriate for treatment programs catering to girls and young women to use confrontational approaches when treating them.
  - **Pregnancy and Childcare.** Although pregnancy may motivate long-term change in substance use in young women, pregnant and parenting women have special needs and may face numerous barriers to treatment entry and participation, such as a lack of childcare.

Treatment Programs

After an extensive review of programs, the only example of a treatment program found by CASA that was designed specifically for girls and young women and that has published outcome data is *Caritas House*, a residential treatment program for adolescent female substance abusers ages 13 to 17. An evaluation of this program demonstrated that approximately one-third of the participants achieved high success,[**] one-third achieved moderate success, and one-third achieved low success. Additional information about this program is provided in Appendix F.

[**] Measured by multiple factors including criminal activity, drug use, alcohol use and relationship with parents.

Chapter XI

Opportunities and Next Steps

The findings of this report highlight the need for a fundamental reshaping of how we approach substance abuse prevention for girls and young women so that programs are tailored to address the risks and consequences of smoking, drinking and using drugs that are unique to them.

Family, peers, physicians, schools, neighborhoods, clergy, media, policymakers and researchers have enormous roles to play in helping protect girls and young women from using and abusing substances.

To be effective for girls and young women, prevention programs should:

- **Target Girls at Highest Risk.** Girls are likelier than boys to be at risk for substance use and abuse if they exhibit any of the following characteristics:
    - A history of physical or sexual abuse;
    - Excessive concern about weight and appearance or symptoms of an eating disorder;
    - Depression, anxiety, or suicidal thoughts or behavior;
    - Early puberty; or
    - Conduct disorder.
- **Target Key Life Transitions That are Important for Girls.** Prevention efforts should target girls going through key physical and emotional transitions, including school transitions, transitions in the home or community environments, puberty, and pregnancy.

- **Target Reasons Why Girls Turn to Substance Use.** Girls tend to use alcohol or drugs to alleviate negative mood, increase confidence, reduce tension, cope with problems, lose inhibitions, enhance sex or lose weight.

- **Target How Girls Obtain Substances.** Girls are more likely to be offered drugs by a female acquaintance, a young female relative or a boyfriend. Girls are likelier to receive offers to smoke, drink or use drugs in private settings. Girls are less likely to be asked to show proof of age when buying cigarettes.

- **Target All Sources of Influence.** Narrowly defined prevention programs that target only peer pressure, inaccurate beliefs or low self-esteem fail to take into account the tremendous influence of parents, schools, communities, health care providers, the media, religion and government policies on girls and young women.

- **Start Early.** Because a significant proportion of girls are experimenting with tobacco, alcohol and drugs before they enter high school--often before they enter middle school--and because early substance use greatly increases the odds that girls will smoke, drink or use drugs in the future, it is imperative to begin prevention efforts early.

- **Employ Religion and Spirituality.** When appropriate, religion and spirituality should be incorporated into prevention efforts as research shows that girls tend to be more religious than boys and hold more favorable attitudes toward religion; religion is more protective against substance use for females than for males.

- **Be Sensitive to Racial, Ethnic and Cultural Differences.** Prevention efforts should be sensitive to differences that affect substance abuse risk among black, Asian and Hispanic girls and recent immigrant girls or daughters of immigrants.

What Parents Can Do

- Be alert to warning signs of increased risk for substance use among their daughters, including girls exhibiting depression, anxiety, excessive concerns about weight and appearance or risky sexual behavior.

- Be vigilant for signs of substance use among daughters who experience early puberty, who have a psychiatric or conduct disorder or who have been physically or sexually abused.

- Set good examples by not smoking, using drugs or abusing alcohol and by conveying firm and consistent messages against such conduct.

- Monitor daughters' activities and be engaged in their lives.

- Communicate openly with daughters about substance use and about their experiences, feelings and sources of stress and anxiety.

Warning Signs and Times of Increased Risk for Substance Abuse Among Girls and Young Women

- Physical or sexual abuse
- Depression
- Bingeing, purging, excessive dieting or worrying a great deal about weight
- Early puberty
- Mothers who smoked or drank alcohol during pregnancy
- Parents or other adult role models who smoke, abuse alcohol or use drugs
- Friends who smoke, drink or use drugs
- Frequent coffee drinking
- Frequent moving from one home or community to another
- Transitioning from elementary school to middle school, middle school to high school or high school to college

What Schools, Communities and Clergy Can Do

- Encourage girls' participation in activities and events that make them feel connected to their schools and communities.
- Provide girls with positive role models.
- Ensure that establishments which sell alcohol or cigarettes conduct identification checks, as girls often can appear older than they are.
- Ensure that teachers, clergy and community leaders are well trained to recognize the signs and symptoms of substance abuse and to know how to respond appropriately to those in need of help.

What Health Professionals Can Do

- Routinely screen young female patients for substance use, depression, sexual and physical abuse, poor school performance, eating disorders, conduct disorders and stress.
- Dentists often can detect signs of a substance use or eating disorder during a routine checkup. Dentists who detect such problems in their young female patients should encourage patients to seek treatment.
- Intervene with pregnant women to help them quit smoking, drinking and drug use as well as with those who have recently given birth to prevent relapse.
- Provide appropriate referrals to substance abuse treatment programs and counsel young female patients on smoking cessation strategies, when necessary.
- Assure that treatment programs are sensitive to the unique needs of girls and young women. Like prevention efforts, treatment programs must address problems that may be related to girls' and young women's substance use.
- Include family members and supportive peers in the treatment process.

What the Media Can Do

- Refrain from presenting glamorous images of women smoking and drinking. If female characters smoke or drink, demonstrate the negative consequences of such conduct.
- Refrain from making positive associations between smoking or drinking and thinness or sex appeal.
- Refuse to accept alcohol advertisements for television.
- Magazines with high proportions of girl readers should refuse advertisements from cigarette and alcohol companies and should include more articles that convey prevention messages against smoking, drinking and excessive dieting and discuss the dangers of such conduct.

What Policymakers Can Do

- Invest in making treatment more available and accessible to female youth.
- Encourage treatment programs that take into account the different needs of girls and boys.
- Ensure that health care professionals are reimbursed for the extra time needed to perform screenings for substance abuse and other health risk behaviors that affect girls and young women.
- Enforce penalties against commercial establishments that sell alcohol or tobacco to underage youth.
- Ban alcohol advertising on television as well as cigarette and alcohol advertising in print media that has high youth readership.

- Provide funding for anti-smoking, drinking and drug use campaigns that are targeted to help girls and young women.

Chapter XII
Closing the Research Chasm

One reason effective programming for girls is so limited is that girls and young women have been neglected by researchers who, more often than not, either focus only on boys or lump girls and boys together in their studies of the pathways to substance abuse, the consequences of such abuse and how to prevent and treat it.

This report highlights key gaps in the research on young female substance abuse and provides important opportunities for researchers to work toward closing these gaps and for public and private financial support. Some of the gaps uncovered by our research include the need to explore:

- Why the transition from high school to college poses such a risk for increased substance use among young women.
- Why girls and young women from certain racial and ethnic groups smoke, drink and use drugs at lower rates than girls and young women from other groups.
- How caffeine use relates to other substance use among girls and young women.
- Why girls who smoke or drink have poorer perceptions of their health than boys who smoke or drink.
- Why females are more susceptible to alcohol- and drug-related brain damage than males.
- How genetics influence gender differences in substance use and abuse.
- What the biological mechanisms are through which prenatal exposure to tobacco and alcohol increases girls' later risk of smoking and drinking--and more than for boys.

- Why early puberty increases the risk of substance use among girls.

- How early childhood temperament differentially influences girls' vs. boys' risk for future substance use.

- Whether parents' and siblings' substance use have different effects on girls' and boys' substance use.

- How important religion is in preventing and treating substance abuse among girls.

- Whether community mentorship programs are effective in preventing and reducing substance use among girls and young women.

- How peer influence can be used constructively to help reduce substance use among girls.

- How portrayals of smoking and drinking in the media and in advertising influence the substance-use behavior--rather than just the attitudes--of girls and young women.

- What the gender differences are in the effectiveness of widely-used school-based prevention programs.

- How to design effective substance use prevention media campaigns to prevent girls' smoking, drinking and drug use.

- How important is social support in helping girls and young women quit smoking.

- How depression affects smoking cessation outcomes among girls and young women.

- What factors hinder or promote smoking cessation among pregnant girls and young women.

Researchers should fill in these and other gaps in knowledge about female substance use. It should be an imperative for them to include sufficient numbers of females in their studies so that they can present findings separately, whenever appropriate, for female and male participants. Researchers also should:

- Routinely explore gender differences in all studies related to youth substance use.

- Conduct more research on gender differences in the biological/genetic risks for all types of substance abuse, as well as gender differences in the health and social consequences of all types of substance abuse--tobacco, alcohol, illicit drug and prescription drug use for nonmedical purposes.

- Develop a brief, valid and reliable screening instrument that physicians can use with their young female patients to help them identify substance use and associated problem behaviors unique to them.

- Examine gender differences in the validity of self-reports of substance use and other health-risk behaviors. Currently, there are conflicting research findings regarding whether girls underreport these risk behaviors more so than boys.

- Scientifically evaluate the effectiveness of prevention and treatment programs for girls and young women.

Chapter II
Notes

[1] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[2] National Institute on Drug Abuse. (2001). *Prescription drugs: Abuse and addiction* (NIH Pub. No. 01-4881). Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

[3] French, S. A., & Perry, C. L. (1996). Smoking among adolescent girls: Prevalence and etiology. *Journal of the American Medical Womens Association, 51*(1-2), 25-28.

[4] Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*(2), 155-162; Best, D. L., Williams, J. E., Cloud, J. M., Davis, S. W., Robertson, L. S., Edwards, J. R., et al. (1977). Development of sex-trait stereotypes among young children in the United States, England, and Ireland. *Child Development, 48*(4), 1375-1384; Nesbitt, M. N., & Penn, N. E. (2000). Gender stereotypes after thirty years: A replication of Rosenkrantz, et al. (1968). *Psychological Reports, 87*(2), 493-511.

[5] Bainbridge, W. S., & Crutchfield, R. D. (1983). Sex role ideology and delinquency. *Sociological Perspectives, 26*(3), 253-274; Huselid, R. F., & Cooper, M. L. (1992). Gender roles as mediators of sex differences in adolescent alcohol use and abuse. *Journal of Health and Social Behavior, 33*(4), 348-362; Neve, R. J. M., Lemmens, P. H., & Drop, M. J. (1997). Gender differences in alcohol use and alcohol problems: Mediation by social roles and gender-role attitudes. *Substance Use and Misuse, 32*(11), 1439-1459; Parker, D. A., & Harford, T. C. (1992). Gender-role attitudes, job competition and alcohol consumption among women and men. *Alcoholism: Clinical and Experimental Research, 16*(2), 159-165.

[6] Bainbridge, W. S., & Crutchfield, R. D. (1983). Sex role ideology and delinquency. *Sociological Perspectives, 26*(3), 253-274; Huselid, R. F., & Cooper, M. L. (1992). Gender roles as mediators of sex differences in adolescent alcohol use and abuse. *Journal of Health and Social Behavior, 33*(4), 348-362; Lye, D. N., & Waldron, I. (1998). Relationships of substance use to attitudes toward gender roles, family and cohabitation. *Journal of Substance Abuse, 10*(2), 185-198; Neve, R. J. M., Lemmens, P. H., & Drop, M. J. (1997). Gender differences in alcohol use and alcohol problems: Mediation by social roles and gender-role attitudes. *Substance Use and Misuse, 32*(11), 1439-1459.

[7] Warner, J., Weber, T. R., & Albanes, R. (1999). "Girls are retarded when they're stoned": Marijuana and the construction of gender roles among adolescent females. *Sex Roles, 40*(1-2), 25-43.

[8] Fields, G. (April 26, 2000). Campaign tries to reverse rise in drug abuse by girls: It's no longer only a "young man's problem". *USA Today*, p. 4A.

[9] Cullen, K. W., Koehly, L. M., Anderson, C., Baranowski, T., Prokhorov, A., Basen-Engquist, K., et al. (1999). Gender differences in chronic disease risk behaviors through the transition out of high school. *American Journal of Preventive Medicine, 17*(1), 1-7; Petersen, A. C., & Hamburg, B. A. (1986). Adolescence: A developmental approach to problems and psychopathology. *Behavior Therapy, 17*(5), 480-499.

[10] Petersen, A. C., & Hamburg, B. A. (1986). Adolescence: A developmental approach to problems and psychopathology. *Behavior Therapy, 17*(5), 480-499.

[11] American Academy of Child and Adolescent Psychiatry. (1997). *Normal adolescent development: Middle school and early high school years.* [On-line]. Retrieved July 12, 2002 from the World Wide Web: http://www.aacap.org.

[12] American Academy of Child and Adolescent Psychiatry. (1997). *Normal adolescent development: Late high school years and beyond.* [On-line]. Retrieved July 12, 2002 from the World Wide Web: http://www.aacap.org.

[13] American Academy of Child and Adolescent Psychiatry. (1997). *Normal adolescent development: Late high school years and beyond.* [On-line]. Retrieved July 12, 2002 from the World Wide Web: http://www.aacap.org.

[14] Johnson, N. G., Roberts, M. C., & Worell, J. (1999). *Beyond appearance: A new look at adolescent girls.* Washington, DC: American Psychological Association.

[15] Johnson, N. G., Roberts, M. C., & Worell, J. (1999). *Beyond appearance: A new look at adolescent girls.* Washington, DC: American Psychological Association.

[16] Johnson, N. G., Roberts, M. C., & Worell, J. (1999). *Beyond appearance: A new look at adolescent girls.* Washington, DC: American Psychological Association; Lopez, R. I. (2002). *The teen health book: A parents' guide*

to adolescent health and well-being. New York: W. W. Norton; Steinberg, L., & Meyer, R. (1995). *Childhood.* New York: McGraw-Hill.

[17] Johnson, N. G., Roberts, M. C., & Worell, J. (1999). *Beyond appearance: A new look at adolescent girls.* Washington, DC: American Psychological Association.

[18] Jones, D. C. (2001). Social comparison and body image: Attractiveness comparisons to models and peers among adolescent girls and boys. *Sex Roles, 45*(9-10), 645-664.

[19] Johnson, N. G., Roberts, M. C., & Worell, J. (1999). *Beyond appearance: A new look at adolescent girls.* Washington, DC: American Psychological Association.

[20] Pipher, M. (1994). *Reviving Ophelia: Saving the selves of adolescent girls.* New York: Ballantine Books.

[21] Durkin, K. (1995). *Developmental social psychology: From infancy to old age.* Malden, MA: Blackwell; Nolen-Hoeksema, S. (2001). Gender differences in depression. *Current Directions in Psychological Science, 10*(5), 173-176; Petersen, A. C., & Hamburg, B. A. (1986). Adolescence: A developmental approach to problems and psychopathology. *Behavior Therapy, 17*(5), 480-499.

[22] Taylor, J. M., Gilligan, C., & Sullivan, A. M. (1995). *Between voice and silence: Women and girls, race and relationship.* Cambridge, MA: Harvard University Press; Pipher, M. (1994). *Reviving Ophelia: Saving the selves of adolescent girls.* New York: Ballantine Books.

[23] Durkin, K. (1995). *Developmental social psychology: From infancy to old age.* Malden, MA: Blackwell.

[24] Erikson, E. H. (1963). *Childhood and society.* New York: W. W. Norton.

[25] Dweck, C. S., & Licht, B. G. (1980). Learned helplessness and intellectual achievement. In J. Garber & M. E. P. Seligman (Eds.), *Human helplessness: Theory and applications* (pp. 197-221). New York: Academic Press; Johnson, N. G., Roberts, M. C., & Worell, J. (1999). *Beyond appearance: A new look at adolescent girls.* Washington, DC: American Psychological Association; Read, C. R. (1991). Gender distribution in programs for the gifted. *Roeper Review, 13*(4), 188-193.

[26] Durkin, K. (1995). *Developmental social psychology: From infancy to old age.* Malden, MA: Blackwell.

[27] Lopez, R. I. (2002). *The teen health book: A parents' guide to adolescent health and well-being.* New York: W. W. Norton.

Chapter III
Notes

[1] Office of Applied Studies. (2002). *Results from the 2001 National Household Survey on Drug Abuse: Volume I: Summary of national findings* (DHHS Pub. No. (SMA) 02-3758). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[2] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[3] American Legacy Foundation. (2000). *Legacy first look report: Cigarette smoking among youth: Results from the 1999 National Youth Tobacco Survey*. Washington, DC: American Legacy Foundation.

[4] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[5] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[6] National Institute on Drug Abuse. (2001). *Prescription drugs: Abuse and addiction* (NIH Pub. No. 01-4881). Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

[7] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[8] DiFranza, J. R., Savageau, J. A., Rigotti, N. A., Fletcher, K., Ockene, J. K., McNeill, A. D., et al. (2002). Development of symptoms of tobacco dependence in youths: 30 month follow up data from the DANDY study. *Tobacco Control, 11*(3), 228-235.

[9] Ely, M., Hardy, R., Longford, N. T., & Wadsworth, M. E. (1999). Gender differences in the relationship between alcohol consumption and drink problems are largely accounted for by body water. *Alcohol and Alcoholism, 34*(6), 894-902; Frezza, M., di Padova, C., Pozzato, G., Terpin, M., Baraona, E., & Lieber, C. S. (1990). High blood alcohol levels in women: The role of decreased gastric alcohol dehydrogenase activity and first-pass metabolism. *New England Journal of Medicine, 322*(2), 95-99; National Institute on Alcohol Abuse and Alcoholism. (1990). Alcohol and women. *Alcohol Alert, 10*; National Institute on Alcohol Abuse and Alcoholism. (1999). Are women more vulnerable to alcohol's effects? *Alcohol Alert, 46*; Sato, N., Lindros, K. O., Baraona, E., Ikejima, K., Mezey, E., Järveläinen, H. A., et al. (2001). Sex difference in alcohol-related organ injury. *Alcoholism: Clinical and Experimental Research, 25*(5), 40S-45S; National Institute on Alcohol Abuse and Alcoholism. (2000). *Tenth special report to the U.S. Congress on alcohol and health: Highlights from current research from the Secretary of Health and Human Services* (NIH Pub. No. 00-1583). Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism.

[10] Hommer, D. W., Momenan, R., Kaiser, E., & Rawlings, R. (2001). Evidence for a gender-related effect of alcoholism on brain volumes. *American Journal of Psychiatry, 158*(2), 198-204; Tapert, S. F., Brown, G. G., Kindermann, S. S., Cheung, E. H., Frank, L. R., & Brown, S. A. (2001). fMRI measurement of brain dysfunction in alcohol-dependent young women. *Alcoholism: Clinical and Experimental Research,* 25(2), 236-245.

[11] Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal, 325*(7374), 1195-1198; Rao, U., Daley, S. E., & Hammen, C. (2000). Relationship between depression and substance use disorders in adolescent women during the transition to adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(2), 215-222.

[12] Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Monitoring the Future: National survey results on drug use, 1975-2001: Volume I: Secondary school students* (NIH Pub. No. 02-5106). Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse; Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Monitoring the Future: National survey results on drug use, 1975-2001: Volume II: College students and adults ages 19-40* (NIH Pub. No. 02-5107). Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.

[13] Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Ecstasy use among American teens drops for the first time in recent years, and overall drug and alcohol use also decline in the year after 9/11* [Press release]. Ann Arbor, MI: University of Michigan News and Information Services.

[14] Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Monitoring the Future: National survey results on drug use, 1975-2001: Volume I: Secondary school students* (NIH Pub. No. 02-5106). Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse; Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Monitoring the Future: National survey results on drug use, 1975-2001: Volume II: College students and adults ages 19-40* (NIH Pub. No. 02-5107). Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.

[15] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

[16] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

[17] American Legacy Foundation. (2000). *Legacy first look report: Cigarette smoking among youth: Results from the 1999 National Youth Tobacco Survey*. Washington, DC: American Legacy Foundation.

[18] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[19] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[20] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[21] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[22] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4); Wagner, E. F., & Atkins, J. H. (2000). Smoking among teenage girls. *Journal of Child and Adolescent Substance Abuse, 9*(4), 93-110.

[23] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[24] Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Monitoring the Future: National survey results on drug use, 1975-2001: Volume II: College students and adults ages 19-40* (NIH Pub. No. 02-5107). Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.

[25] Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000). U.S. college students' use of tobacco products: Results of a national survey. *JAMA, 284*(6), 699-705.

[26] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[27] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[28] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[29] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[30] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[31] Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Monitoring the Future: National survey results on drug use, 1975-2001: Volume II: College students and adults ages 19-40* (NIH Pub. No. 02-5107). Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.

[32] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[33] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[34] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[35] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[36] Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Monitoring the Future: National survey results on drug use, 1975-2001: Volume II: College students and adults ages 19-40* (NIH Pub. No. 02-5107). Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.

[37] National Institute on Drug Abuse. (2001). *Prescription drugs: Abuse and addiction* (NIH Pub. No. 01-4881). Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

[38] National Institute on Drug Abuse. (2001). *Prescription drugs: Abuse and addiction* (NIH Pub. No. 01-4881). Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse.

[39] National Institute on Drug Abuse. (2001). *Prescription drugs: Abuse and addiction* (NIH Pub. No. 01-4881). Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse.

[40] Light, H. (1998). Sex differences in adolescent high-risk sexual and drug behaviors. *Psychological Reports, 82* (3, Pt. 2), 1312-1314.

[41] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

[42] Office of Applied Studies. (2002). *Detailed tables for 2000 National Household Survey on Drug Abuse: Dependence, abuse, and treatment 5.1 to 5.66: Prevalence estimates.* [On-line]. Retrieved October 28, 2002 from the World Wide Web: http://www.samhsa.gov/oas.

[43] Office of Applied Studies. (2002). *Detailed tables for 2000 National Household Survey on Drug Abuse: Dependence, abuse, and treatment 5.1 to 5.66: Prevalence estimates.* [On-line]. Retrieved October 28, 2002 from the World Wide Web: http://www.samhsa.gov/oas.

[44] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4); Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[45] Wallace, J. M., & Bachman, J. G. (1991). Explaining racial/ethnic differences in adolescent drug use: The impact of background and lifestyle. *Social Problems, 38*(3), 333-357.

[46] Au, J. G., & Donaldson, S. I. (2000). Social influences as explanations for substance use differences among Asian-American and European-American adolescents. *Journal of Psychoactive Drugs, 32*(1), 15-23; Epstein, J. A., Botvin, G. J., Griffin, K. W., & Diaz, T. (1999). Role of ethnicity and gender in polydrug use among a longitudinal sample of inner-city adolescents. *Journal of Alcohol and Drug Education, 45*(1), 1-12.

Office of Applied Studies. (2002). *Low rates of alcohol use among Asian youths: The NHSDA report* [Fact sheet]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies; Wallace, J. M., & Bachman, J. G. (1991). Explaining racial/ethnic differences in adolescent drug use: The impact of background and lifestyle. *Social Problems, 38*(3), 333-357.

[47] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[48] Amey, C. H., & Albrecht, S. L. (1998). Race and ethnic differences in adolescent drug use: The impact of family structure and the quantity and quality of parental interaction. *Journal of Drug Issues, 28*(2), 283-298; Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4); Johnson, R. A., & Hoffman, J. P. (2000). Adolescent cigarette smoking in U.S. racial/ethnic subgroups: Findings from the National Education Longitudinal Study. *Journal of Health and Social Behavior, 41*(4), 392-407.

[49] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[50] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[51] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[52] Office of Applied Studies. (2002). *Low rates of alcohol use among Asian youths: The NHSDA report* [Fact sheet]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[53] Keefe, K., & Newcomb, M. D. (1996). Demographic and psychosocial risk for alcohol use: Ethnic differences. *Journal of Studies on Alcohol, 57*(5), 521-530.

[54] Wallace, J. M., & Bachman, J. G. (1991). Explaining racial/ethnic differences in adolescent drug use: The impact of background and lifestyle. *Social Problems, 38*(3), 333-357.

[55] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[56] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

[57] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

[58] Wilson, N., Battistich, V., Syme, S. L., & Boyce, W. T. (2002). Does elementary school alcohol, tobacco, and marijuana use increase middle school risk? *Journal of Adolescent Health, 30*(6), 442-447.

[59] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[60] French, S. A., & Perry, C. L. (1996). Smoking among adolescent girls: Prevalence and etiology. *Journal of the American Medical Womens Association, 51*(1-2), 25-28.

[61] Wilson, N., Battistich, V., Syme, S. L., & Boyce, W. T. (2002). Does elementary school alcohol, tobacco, and marijuana use increase middle school risk? *Journal of Adolescent Health, 30*(6), 442-447.

[62] Wilson, N., Battistich, V., Syme, S. L., & Boyce, W. T. (2002). Does elementary school alcohol, tobacco, and marijuana use increase middle school risk? *Journal of Adolescent Health, 30*(6), 442-447.

[63] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[64] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002). Trends in college binge drinking during a period of increased prevention efforts: Findings from 4 Harvard School of Public Health College Alcohol Study surveys: 1993-2001. *Journal of American College Health, 50*(5), 203-217.

[65] Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002). Trends in college binge drinking during a period of increased prevention efforts: Findings from 4 Harvard School of Public Health College Alcohol Study surveys: 1993-2001. *Journal of American College Health, 50*(5), 203-217.

[66] Ozegovic, J. J., Bikos, L. H., & Szymanski, D. M. (2001). Trends and predictors of alcohol use among undergraduate female students. *Journal of College Student Development, 42*(5), 447-455.

[67] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[68] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[69] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[70] Center for Science in the Public Interest. (1997). *Caffeine content of foods and drugs.* [On-line]. Retrieved October 25, 2002 from the World Wide Web: http://www.cspinet.org.

[71] Center for Science in the Public Interest. (1997). *Caffeine content of foods and drugs.* [On-line]. Retrieved October 25, 2002 from the World Wide Web: http://www.cspinet.org.

[72] Bernstein, G. A., Carroll, M. E., Thuras, P. D., Cosgrove, K. P., & Roth, M. E. (2002). Caffeine dependence in teenagers. *Drug and Alcohol Dependence, 66*(1), 1-6.

[73] Bernstein, G. A., Carroll, M. E., Thuras, P. D., Cosgrove, K. P., & Roth, M. E. (2002). Caffeine dependence in teenagers. *Drug and Alcohol Dependence, 66*(1), 1-6.

[74] Bernstein, G. A., Carroll, M. E., Thuras, P. D., Cosgrove, K. P., & Roth, M. E. (2002). Caffeine dependence in teenagers. *Drug and Alcohol Dependence, 66*(1), 1-6.

[75] Aarons, G. A., Brown, S. A., Coe, M. T., Myers, M. G., Garland, A. F., Ezzet-Lofstram, R., et al. (1999). Adolescent alcohol and drug abuse and health. *Journal of Adolescent Health, 24*(6), 412-421; Johnson, P. B., &

Richter, L. (2002). The relationship between smoking, drinking, and adolescents' self-perceived health and frequency of hospitalization: Analyses from the 1997 National Household Survey on Drug Abuse. *Journal of Adolescent Health, 30*(3), 175-183; Newcomb, M. D., & Bentler, P. M. (1987). The impact of late adolescent substance use on young adult health status and utilization of health services: A structural-equation model over four years. *Social Science and Medicine, 24*(1), 71-82.

[76] Aarons, G. A., Brown, S. A., Coe, M. T., Myers, M. G., Garland, A. F., Ezzet-Lofstram, R., et al. (1999). Adolescent alcohol and drug abuse and health. *Journal of Adolescent Health, 24*(6), 412-421; Johnson, P. B., & Richter, L. (2002). The relationship between smoking, drinking, and adolescents' self-perceived health and frequency of hospitalization: Analyses from the 1997 National Household Survey on Drug Abuse. *Journal of Adolescent Health, 30*(3), 175-183; Newcomb, M. D., & Bentler, P. M. (1987). The impact of late adolescent substance use on young adult health status and utilization of health services: A structural-equation model over four years. *Social Science and Medicine, 24*(1), 71-82.

[77] Johnson, P. B., & Richter, L. (2002). The relationship between smoking, drinking, and adolescents' self-perceived health and frequency of hospitalization: Analyses from the 1997 National Household Survey on Drug Abuse. *Journal of Adolescent Health, 30*(3), 175-183; Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[78] Johnson, P. B., & Richter, L. (2002). The relationship between smoking, drinking, and adolescents' self-perceived health and frequency of hospitalization: Analyses from the 1997 National Household Survey on Drug Abuse. *Journal of Adolescent Health, 30*(3), 175-183.

[79] Ely, M., Hardy, R., Longford, N. T., & Wadsworth, M. E. (1999). Gender differences in the relationship between alcohol consumption and drink problems largely accounted for by body water. *Alcohol and Alcoholism, 34*(6), 894-902; National Institute on Alcohol Abuse and Alcoholism. (1999). Are women more vulnerable to alcohol's effects? *Alcohol Alert*, 46.

[80] Johnson, P. B., & Richter, L. (2002). The relationship between smoking, drinking, and adolescents' self-perceived health and frequency of hospitalization: Analyses from the 1997 National Household Survey on Drug Abuse. *Journal of Adolescent Health, 30*(3), 175-183.

[81] Gauvin, F., Bailey, B., & Bratton, S. L. (2001). Hospitalizations for pediatric intoxication in Washington State, 1987-1997. *Archives of Pediatrics and Adolescent Medicine, 155*(10), 1105-1110.

[82] Kandel, D. B., & Chen, K. (2000). Extent of smoking and nicotine dependence in the Unites States: 1991-1993. *Nicotine and Tobacco Research, 2*(3), 263-274.

[83] National Institute on Drug Abuse. (1999). *Drug abuse and addiction research: 25 years of discovery to advance the health of the public: The sixth triennial report to Congress from the Secretary of Health and Human Services.* Rockville, MD: U.S. Department of Health and Human Services, National Institute on Drug Abuse; National Institute on Drug Abuse. (2000). Gender differences in drug abuse risks and treatment. *NIDA Notes, 15*(4), 6-7.

[84] Kandel, D. B., & Chen, K. (2000). Extent of smoking and nicotine dependence in the United States: 1991-1993. *Nicotine and Tobacco Research, 2*(3), 263-274; Zickler, P. (2001). Adolescents, women, and whites more vulnerable than others to becoming nicotine dependent. *NIDA Notes, 16*(2), 9, 11.

[85] Kandel, D. B., & Chen, K. (2000). Extent of smoking and nicotine dependence in the United States: 1991-1993. *Nicotine and Tobacco Research, 2*(3), 263-274; Zickler, P. (2001). Adolescents, women, and whites more vulnerable than others to becoming nicotine dependent. *NIDA Notes, 16*(2), 9, 11.

[86] DiFranza, J. R., Savageau, J. A., Rigotti, N. A., Fletcher, K., Ockene, J. K., McNeill, A. D., et al. (2002). Development of symptoms of tobacco dependence in youths: 30 month follow up data from the DANDY study. *Tobacco Control, 11*(3), 228-235.

[87] DiFranza, J. R., Savageau, J. A., Rigotti, N. A., Fletcher, K., Ockene, J. K., McNeill, A. D., et al. (2002). Development of symptoms of tobacco dependence in youths: 30 month follow up data from the DANDY study. *Tobacco Control, 11*(3), 228-235.

[88] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General: At a Glance* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[89] Hampl, J. S., & Betts, N. M. (1999). Cigarette use during adolescence: Effects on nutritional status. *Nutrition Reviews, 57*(7), 215-221; Newcomb, M. D., & Bentler, P. M. (1987). The impact of late adolescent substance use on young adult health status and utilization of health services: A structural-equation model over four years. *Social Science and Medicine, 24*(1), 71-82; Wilson, D. B., & Nietert, P. J. (2002). Patterns of fruit, vegetable, and milk consumption among smoking and nonsmoking female teens. *American Journal of Preventive Medicine, 22*(4), 240-246.

[90] Holmen, T. L., Barrett-Connor, E., Holmen, J., & Bjermer, L. (2000). Health problems in teenage daily smokers versus nonsmokers, Norway, 1995-1997: The Nord-Trondelag Health Study. *American Journal of Epidemiology, 151*(2), 148-155.

[91] Holmen, T. L., Barrett-Connor, E., Holmen, J., & Bjermer, L. (2000). Health problems in teenage daily smokers versus nonsmokers, Norway, 1995-1997: The Nord-Trondelag Health Study. *American Journal of Epidemiology, 151*(2), 148-155.

[92] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Longitudinal Study of Adolescent Health (Add Health), 1996* [Data file]. Chapel Hill, NC: University of North Carolina at Chapel Hill, Carolina Population Center.

[93] Lopez, R. I. (2002). *The teen health book: A parents' guide to adolescent health and well-being.* New York: W. W. Norton.

[94] Gold, D. R., Wang, X., Wypij, D., Speizer, F. E., Ware, J. H., & Dockery, D. W. (1996). Effects of cigarette smoking on lung function in adolescent boys and girls. *New England Journal of Medicine, 335*(13), 931-937.

[95] Gold, D. R., Wang, X., Wypij, D., Speizer, F. E., Ware, J. H., & Dockery, D. W. (1996). Effects of cigarette smoking on lung function in adolescent boys and girls. *New England Journal of Medicine, 335*(13), 931-937.

[96] Hampl, J. S., & Betts, N. M. (1999). Cigarette use during adolescence: Effects on nutritional status. *Nutrition Reviews, 57*(7), 215-221; Wilson, D. B., & Nietert, P. J. (2002). Patterns of fruit, vegetable, and milk consumption among smoking and nonsmoking female teens. *American Journal of Preventive Medicine, 22*(4), 240-246.

[97] Hampl, J. S., & Betts, N. M. (1999). Cigarette use during adolescence: Effects on nutritional status. *Nutrition Reviews, 57*(7), 215-221.

[98] Kimm, S. Y. S., Glynn, N. W., Kriska, A. M., Barton, B. A., Kronsberg, S. S., Daniels, S. R., et al. (2002). Decline in physical activity in black girls and white girls during adolescence. *New England Journal of Medicine, 347*(10), 709-715.

[99] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[100] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[101] Paulus, D., Saint-Remy, A., & Jeanjean, M. (2000). Oral contraception and cardiovascular risk factors during adolescence. *Contraception, 62*(3), 113-116.

[102] Harlow, B. L., & Signorello, L. B. (2000). Factors associated with early menopause. *Maturitas, 35*(1), 3-9.

[103] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[104] Band, P., Le, N., Fang, R., & Deschamps, M. (2002). Carcinogenic and endocrine disrupting effects of cigarette smoke and risk of breast cancer. *Lancet, 360*(9339), 1044-1049.

[105] Band, P., Le, N., Fang, R., & Deschamps, M. (2002). Carcinogenic and endocrine disrupting effects of cigarette smoke and risk of breast cancer. *Lancet, 360*(9339), 1044-1049.

[106] Band, P., Le, N., Fang, R., & Deschamps, M. (2002). Carcinogenic and endocrine disrupting effects of cigarette smoke and risk of breast cancer. *Lancet, 360*(9339), 1044-1049.

[107] Perkins, K. A. (2001). Smoking cessation in women: Special considerations. *CNS Drugs, 15*(5), 391-411.

[108] Ely, M., Hardy, R., Longford, N. T., & Wadsworth, M. E. (1999). Gender differences in the relationship between alcohol consumption and drink problems largely accounted for by body water. *Alcohol and Alcoholism, 34*(6), 894-902; Greenfield, S. F. (2002). Women and alcohol use disorders. *Harvard Review of Psychiatry, 10*(2), 76-85; Mann, K., Batra, A., Gunthner, A., & Schroth, G. (1992). Do women develop alcoholic brain damage more readily than men? *Alcoholism: Clinical and Experimental Research, 16*(6), 1052-1056; National Institute on Alcohol Abuse and Alcoholism. (1990). Alcohol and women. *Alcohol Alert, 10*; National Institute on Alcohol Abuse and Alcoholism. (1999). Are women more vulnerable to alcohol's effects? *Alcohol Alert, 46.*

[109] Ely, M., Hardy, R., Longford, N. T., & Wadsworth, M. E. (1999). Gender differences in the relationship between alcohol consumption and drink problems are largely accounted for by body water. *Alcohol and Alcoholism, 34*(6), 894-902; National Institute on Alcohol Abuse and Alcoholism. (1990). Alcohol and women. *Alcohol Alert, 10*; National Institute on Alcohol Abuse and Alcoholism. (1999). Are women more vulnerable to alcohol's effects? *Alcohol Alert, 46*; Sato, N., Lindros, K. O., Baraona, E., Ikejima, K., Mezey, E., Järveläinen, H. A., et al. (2001). Sex difference in alcohol-related organ injury. *Alcoholism: Clinical and Experimental Research, 25*(5), 40S-45S; National Institute on Alcohol Abuse and Alcoholism. (2000). *Tenth special report to the U.S. Congress on alcohol and health: Highlights from current research from the Secretary of Health and Human Services* (NIH Pub. No. 00-1583). Rockville, MD:

U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism.

[110] Frezza, M., di Padova, C., Pozzato, G., Terpin, M., Baraona, E., & Lieber, C. S. (1990). High blood alcohol levels in women: The role of decreased gastric alcohol dehydrogenase activity and first-pass metabolism. *New England Journal of Medicine*, 322(2), 95-99; National Institute on Alcohol Abuse and Alcoholism. (1990). Alcohol and women. *Alcohol Alert, 10*; National Institute on Alcohol Abuse and Alcoholism. (1999). Are women more vulnerable to alcohol's effects? *Alcohol Alert, 46*.

[111] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997). *Substance abuse and the American woman*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[112] Hansell, S., White, H. R., & Vali, F. M. (1999). Specific alcoholic beverages and physical and mental health among adolescents. *Journal of Studies on Alcohol, 60*(2), 209-218; Johnson, P. B., & Richter, L. (2002). The relationship between smoking, drinking, and adolescents' self-perceived health and frequency of hospitalization: Analyses from the 1997 National Household Survey on Drug Abuse. *Journal of Adolescent Health, 30*(3), 175-183.

[113] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Longitudinal Study of Adolescent Health (Add Health), 1996* [Data file]. Chapel Hill, NC: University of North Carolina at Chapel Hill, Carolina Population Center.

[114] Clark, D. B., Lynch, K. G., Donovan, J. E., & Block, G. D. (2001). Health problems in adolescents with alcohol use disorders: Self-report, liver injury, and physical examination findings and correlates. *Alcoholism: Clinical and Experimental Research, 25*(9), 1350-1359.

[115] Brooks, T. L., Harris, S. K., Thrall, J. S., & Woods, E. R. (2002). Association of adolescent risk behaviors with mental health symptoms in high school students. *Journal of Adolescent Health, 31*(3), 240-246; Nolen-Hoeksema, S. (2001). Gender differences in depression. *Current Directions in Psychological Science, 10*(5), 173-176; Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls*. New York: Commonwealth Fund.

[116] Clark, D. B., Lynch, K. G., Donovan, J. E., & Block, G. D. (2001). Health problems in adolescents with alcohol use disorders: Self-report, liver injury, and physical examination findings and correlates. *Alcoholism: Clinical and Experimental Research, 25*(9), 1350-1359.

[117] Clark, D. B., Lynch, K. G., Donovan, J. E., & Block, G. D. (2001). Health problems in adolescents with alcohol use disorders: Self-report, liver injury, and physical examination findings and correlates. *Alcoholism: Clinical and Experimental Research, 25*(9), 1350-1359.

[118] Greenfield, S. F. (2002). Women and alcohol use disorders. *Harvard Review of Psychiatry, 10*(2), 76-85; Piazza, N. J., Vrbka, J. L., & Yeager, R. D. (1989). Telescoping of alcoholism in women alcoholics. *International Journal of the Addictions, 24*(1), 19-28; Johnson, P. B., Richter, L., & Kleber, H. D. (2002). *Telescoping of drinking-related behaviors: Gender, racial/ethnic, and age comparisons*. Manuscript submitted for publication; Piazza, N. J., Vrbka, J. L., & Yeager, R. D. (1989). Telescoping of alcoholism in women alcoholics. *International Journal of the Addictions, 24*(1), 19-28; Randall, C. L., Roberts, J. S., Del Boca, F. K., Carroll, K. M., Connors, G. J., & Mattson, M. E. (1999). Telescoping of landmark events associated with drinking: A gender comparison. *Journal of Studies on Alcohol, 60*(2), 252-260; Schuckit, M. A., Anthenelli, R. M., Bucholz, K. K., Hesselbrock, V. M., & Tipp, J. (1995). The time course of development of alcohol-related problems in men and women. *Journal of Studies on Alcohol, 56*(2), 218-225.

[119] Gavaler, J. S. (1982). Sex-related differences in ethanol-induced liver disease: Artifactual or real? *Alcoholism: Clinical and Experimental Research, 6*(2), 186-196; National Institute on Alcohol Abuse and Alcoholism. (1999). Are women more vulnerable to alcohol's effects? *Alcohol Alert, 46*.

[120] Urbano-Marquez, A., Estruch, R., Fernandez-Sola, J., Nicolas, J. M., Pare, J. C., & Rubin, E. (1995). The greater risk of alcoholic cardiomyopathy and myopathy in women compared with men. *JAMA, 274*(2), 149-154.

[121] Mann, K., Batra, A., Gunthner, A., & Schroth, G. (1992). Do women develop alcoholic brain damage more readily than men? *Alcoholism: Clinical and Experimental Research, 16*(6), 1052-1056.

[122] Urbano-Marquez, A., Estruch, R., Fernandez-Sola, J., Nicolas, J. M., Pare, J. C., & Rubin, E. (1995). The greater risk of alcoholic cardiomyopathy and myopathy in women compared with men. *JAMA, 274*(2), 149-154.

[123] Thadhani, R., Camargo, C. A., Stampfer, M. J., Curhan, G. C., Willett, W. C., & Rimm, E. B. (2002). Prospective study of moderate alcohol consumption and risk of hypertension in young women. *Archives of Internal Medicine, 162*(5), 569-574.

[124] Gavaler, J. S. (1982). Sex-related differences in ethanol-induced liver disease: Artifactual or real? *Alcoholism: Clinical and Experimental Research, 6*(2), 186-196.

National Institute on Alcohol Abuse and Alcoholism. (1990). Alcohol and women. *Alcohol Alert, 10;* National Institute on Alcohol Abuse and Alcoholism. (1999). Are women more vulnerable to alcohol's effects? *Alcohol Alert, 46*; Sato, N., Lindros, K. O., Baraona, E., Ikejima, K., Mezey, E., Järveläinen, H. A., et al. (2001). Sex difference in alcohol-related organ injury. *Alcoholism: Clinical and Experimental Research, 25*(5), 40S-45S.

[125] Ikejima, K., Enomoto, N., Iimuro, Y., Ikejima, A., Fang, D., Xu, J., et al. (1998). Estrogen increases sensitivity of hepatic Kupffer cells to endotoxin. *American Journal of Physiology, 274*(4, Pt 1), G669-G676; Greenfield, S. F. (2002). Women and alcohol use disorders. *Harvard Review of Psychiatry, 10*(2), 76-85.

[126] Vally, H., de Klerk, N., & Thompson, P. J. (2000). Alcoholic drinks: Important triggers for asthma. *Journal of Allergy and Clinical Immunology, 105*(3), 462-467.

[127] National Institute on Alcohol Abuse and Alcoholism. (1990). Alcohol and women. *Alcohol Alert, 10;* Smith-Warner, S. A., Spiegelman, D., Yaun, S.-S., van den Brandt, P. A., Folsom, A. R., Goldbohm, A., et al. (1998). Alcohol and breast cancer in women: A pooled analysis of cohort studies. *JAMA, 279*(7), 535-540.

[128] Smith-Warner, S. A., Spiegelman, D., Yaun, S.-S., van den Brandt, P. A., Folsom, A. R., Goldbohm, A., et al. (1998). Alcohol and breast cancer in women: A pooled analysis of cohort studies. *JAMA, 279*(7), 535-540.

[129] National Institute on Alcohol Abuse and Alcoholism. (1990). Alcohol and women. *Alcohol Alert, 10.*

[130] National Institute on Alcohol Abuse and Alcoholism. (1990). Alcohol and women. *Alcohol Alert, 10.*

[131] Grodstein, F., Goldman, M. B., & Cramer, D. W. (1994). Infertility in women and moderate alcohol use. *American Journal of Public Health, 84*(9), 1429-1432.

[132] Wartik, N. (2001, June 24). Paying a price for drinking men under the table. *New York Times*, p. 15:4.

[133] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Longitudinal Study of Adolescent Health (Add Health), 1996* [Data file]. Chapel Hill, NC: University of North Carolina at Chapel Hill, Carolina Population Center.

[134] National Institute on Drug Abuse. (2002). *Marijuana abuse* (NIH Publication No. 02-3859). Washington, DC: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse; National Institute on Drug Abuse. (2002). *NIDA infofacts: Marijuana.* [On-line]. Retrieved October 26, 2001 from the World Wide Web: http://www.nida.nih.gov; Zhang, Z.-F., Morgenstern, H., Spitz, M. R., Tashkin, D. P., Yu, G.-P., Marshall, J. R., et al. (1999). Marijuana use and increased risk of squamous cell carcinoma of the head and neck. *Cancer Epidemiology, Biomarkers and Prevention, 8*(12), 1071-1078.

[135] National Institute on Drug Abuse. (2002). *Marijuana abuse* (NIH Publication No. 02-3859). Washington, DC: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse; National Institute on Drug Abuse. (2002). *NIDA infofacts: Marijuana.* [On-line]. Retrieved October 26, 2001 from the World Wide Web: http://www.nida.nih.gov.

[136] National Institute on Drug Abuse. (2002). *Marijuana abuse* (NIH Publication No. 02-3859). Washington, DC: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse; National Institute on Drug Abuse. (2002). *NIDA infofacts: Marijuana.* [On-line]. Retrieved October 26, 2001 from the World Wide Web: http://www.nida.nih.gov.

[137] National Institute on Drug Abuse. (2002). *Marijuana abuse* (NIH Publication No. 02-3859). Washington, DC: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse.

[138] Gouzoulis, E., Daumann, J., Tuchtenhagen, F., Pelz, S., Becker, S., Kunert, H.-J., et al. (2000). Impaired cognitive performance in drug free users of recreational ecstasy (MDMA). *Journal of Neurology, Neurosurgery and Psychiatry, 68*(6), 719-725; Morgan, M. J. (2000). Ecstasy (MDMA): A review of its possible persistent psychological effects. *Psychopharmacology, 152*(3), 230-248; Wareing, M., Fisk, J. E., & Murphy, P. N. (2000). Working memory deficits in current and previous users of MDMA ("ecstasy"). *British Journal of Psychology, 91*(Pt. 2), 181-188.

[139] Reneman, L., Booij, J., de Bruin, K., Reitsma, J. B., de Wolff, F. A., Gunning, W. B., et al. (2001). Effects of dose, sex, and long-term abstention from use on toxic effects of MDMA (ecstasy) on brain serotonin neurons. *Lancet, 358*(9296), 1864-1869.

[140] Join Together Online. (2001). *Women more susceptible to Ecstasy brain damage.* [On-line]. Retrieved April 3, 2002 from the World Wide Web: http://www.jointogether.org.

[141] Reneman, L., Booij, J., de Bruin, K., Reitsma, J. B., de Wolff, F. A., Gunning, W. B., et al. (2001). Effects of dose, sex, and long-term abstention from use on toxic effects of MDMA (ecstasy) on brain serotonin neurons. *Lancet, 358*(9296), 1864-1869.

[142] Chen, K., & Kandel, D. (2002). Relationship between extent of cocaine use and dependence among adolescents and adults in the United States. *Drug and Alcohol Dependence, 68*(1), 65-85.

[143] Chen, K., & Kandel, D. (2002). Relationship between extent of cocaine use and dependence among adolescents and adults in the United States. *Drug and Alcohol Dependence, 68*(1), 65-85.

[144] Chen, K., & Kandel, D. (2002). Relationship between extent of cocaine use and dependence among adolescents and adults in the United States. *Drug and Alcohol Dependence, 68*(1), 65-85.

[145] Lukas, S. E., Sholar, M., Lundahl, L. H., Lamas, X., Kouri, E., Wines, J. D., et al. (1996). Sex differences in plasma cocaine levels and subjective effects after acute cocaine administration in human volunteers. *Psychopharmacology, 125*(4), 346-354; National Institute on Drug Abuse. (1999). *Drug abuse and addiction research: 25 years of discovery to advance the health of the public. The sixth triennial report to Congress from the Secretary of Health and Human Services.* Rockville, MD: U.S. Department of Health and Human Services, National Institute on Drug Abuse; National Institute on Drug Abuse. (2000). Gender differences in drug abuse risks and treatment. *NIDA Notes, 15*(4), 6-7.

[146] National Institute on Drug Abuse. (1999). *Drug abuse and addiction research: 25 years of discovery to advance the health of the public. The sixth triennial report to Congress from the Secretary of Health and Human Services.* Rockville, MD: U.S. Department of Health and Human Services, National Institute on Drug Abuse; National Institute on Drug Abuse. (2000). Gender differences in drug abuse risks and treatment. *NIDA Notes,15*(4), 6-7.

Williams, J. S. (2002). Cocaine's effects on cerebral blood flow differ between men and women. *NIDA Notes, 17*(2), 1, 6.

[147] Lukas, S. E., Sholar, M., Lundahl, L. H., Lamas, X., Kouri, E., Wines, J. D., et al. (1996). Sex differences in plasma cocaine levels and subjective effects after acute cocaine administration in human volunteers. *Psychopharmacology, 125*(4), 346-354; Bowersox, J. A. (1996). Cocaine affects men and women differently, NIDA study shows. *NIDA Notes, 11*(1), 7, 11.

[148] Bowersox, J. A. (1996). Cocaine affects men and women differently, NIDA study shows. *NIDA Notes, 11*(1), 7, 11; Lukas, S. E., Sholar, M., Lundahl, L. H., Lamas, X., Kouri, E., Wines, J. D., et al. (1996). Sex differences in plasma cocaine levels and subjective effects after acute cocaine administration in human volunteers. *Psychopharmacology, 125*(4), 346-354.

[149] Bowersox, J. A. (1996). Cocaine affects men and women differently, NIDA study shows. *NIDA Notes, 11*(1), 7, 11; Lukas, S. E., Sholar, M., Lundahl, L. H., Lamas, X., Kouri, E., Wines, J. D., et al. (1996). Sex differences in plasma cocaine levels and subjective effects after acute cocaine administration in human volunteers. *Psychopharmacology, 125*(4), 346-354.

[150] Bowersox, J. A. (1996). Cocaine affects men and women differently, NIDA study shows. *NIDA Notes, 11*(1), 7, 11; Lukas, S. E., Sholar, M., Lundahl, L. H., Lamas, X., Kouri, E., Wines, J. D., et al. (1996). Sex differences in plasma cocaine levels and subjective effects after acute cocaine administration in human volunteers. *Psychopharmacology, 125*(4), 346-354.

[151] Hommer, D. W., Momenan, R., Kaiser, E., & Rawlings, R. (2001). Evidence for a gender-related effect of alcoholism on brain volumes. *American Journal of Psychiatry, 158*(2), 198-204.

[152] Hommer, D. W., Momenan, R., Kaiser, E., & Rawlings, R. (2001). Evidence for a gender-related effect of alcoholism on brain volumes. *American Journal of Psychiatry, 158*(2), 198-204.

[153] Hommer, D. W., Momenan, R., Kaiser, E., & Rawlings, R. (2001). Evidence for a gender-related effect of alcoholism on brain volumes. *American Journal of Psychiatry, 158*(2), 198-204.

[154] Mann, K., Batra, A., Gunthner, A., & Schroth, G. (1992). Do women develop alcoholic brain damage more readily than men? *Alcoholism: Clinical and Experimental Research, 16*(6), 1052-1056.

[155] Tapert, S. F., Brown, G. G., Kindermann, S. S., Cheung, E. H., Frank, L. R., & Brown, S. A. (2001). fMRI measurement of brain dysfunction in alcohol-dependent young women. *Alcoholism: Clinical and Experimental Research, 25*(2), 236-245.

[156] Reneman, L., Booij, J., de Bruin, K., Reitsma, J. B., de Wolff, F. A., Gunning, W. B., et al. (2001). Effects of dose, sex, and long-term abstention from use on toxic effects of MDMA (ecstasy) on brain serotonin neurons. *Lancet, 358*(9296), 1864-1869.

[157] Reneman, L., Booij, J., de Bruin, K., Reitsma, J. B., de Wolff, F. A., Gunning, W. B., et al. (2001). Effects of dose, sex, and long-term abstention from use on toxic effects of MDMA (ecstasy) on brain serotonin neurons. *Lancet, 358*(9296), 1864-1869.

[158] Reneman, L., Booij, J., de Bruin, K., Reitsma, J. B., de Wolff, F. A., Gunning, W. B., et al. (2001). Effects of dose, sex, and long-term abstention from use on toxic effects of MDMA (ecstasy) on brain serotonin neurons. *Lancet, 358*(9296), 1864-1869.

[159] Laukkanen, E. R., Shemeikka, S. L., Viinamäki, H. T., Pölkki, P. L., & Lehtonen, J. O. (2001). Heavy drinking is associated with more severe psychosocial dysfunction among girls than boys in Finland. *Journal of Adolescent Health, 28*(4), 270-277; Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal, 325*(7374), 1195-1198.

[160] Giancola, P. R., Shoal, G. D., & Mezzich, A. C. (2001). Constructive thinking, executive functioning, antisocial behavior, and drug use involvement in adolescent females with a substance use disorder. *Experimental and Clinical Psychopharmacology, 9*(2), 215-227.

[161] Goodman, E., & Capitman, J. (2000). Depressive symptoms and cigarette smoking among teens. *Pediatrics, 106*(4), 748-755; Rao, U., Daley, S. E., & Hammen, C. (2000). Relationship between depression and substance use disorders in adolescent women during the transition to adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(2), 215-222.

[162] Krahn, D. D. (1991). The relationship of eating disorders and substance abuse. *Journal of Substance Abuse, 3*(2), 239-253; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003). *Food for thought: Substance abuse and eating disorders.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[163] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[164] Domino, E. F. (2001). Nicotine and tobacco dependence: Normalization or stimulation? *Alcohol, 24*(2), 83-86; Goodman, E., & Capitman, J. (2000). Depressive symptoms and cigarette smoking among teens. *Pediatrics, 106*(4), 748-755; Quattrocki, E., Baird, A., & Yurgelun-Todd, D. (2000). Biological aspects of the link between smoking and depression. *Harvard Review of Psychiatry, 8*(3), 99-110.

[165] $F(1,961) = 9.01, p < .01$

[166] Goodman, E., & Capitman, J. (2000). Depressive symptoms and cigarette smoking among teens. *Pediatrics, 106*(4), 748-755.

[167] Goodman, E., & Capitman, J. (2000). Depressive symptoms and cigarette smoking among teens. *Pediatrics, 106*(4), 748-755; Wu, L. T., & Anthony, J. C. (1999). Tobacco smoking and depressed mood in late childhood and early adolescence. *American Journal of Public Health, 89*(12), 1837-1840.

[168] Breslau, N., & Klein, D. F. (1999). Smoking and panic attacks: An epidemiologic investigation. *Archives of General Psychiatry, 56*(12), 1141-1147.

[169] Breslau, N., & Klein, D. F. (1999). Smoking and panic attacks: An epidemiologic investigation. *Archives of General Psychiatry, 56*(12), 1141-1147.

[170] Breslau, N., & Klein, D. F. (1999). Smoking and panic attacks: An epidemiologic investigation. *Archives of General Psychiatry, 56*(12), 1141-1147.

[171] $F(1,960) = 11.21, p < .001$

[172] $F(1,302) = 5.69, p < .02; p < .01$

[173] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[174] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[175] Himle, J. A., Abelson, J. L., Haghightgou, H., Hill, E. M., Nesse, R. M., & Curtis, G. C. (1999). Effect of alcohol on social phobic anxiety. *American Journal of Psychiatry, 156*(8), 1237-1243.

[176] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[177] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[178] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[179] Brook, J. S., Rosen, Z., & Brook, D. W. (2001). The effect of early marijuana use on later anxiety and depressive symptoms. *NYS Psychologist, (13)1*, 35-40; Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal, 325*(7374), 1195-1198.

[180] Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal, 325*(7374), 1195-1198.

[181] Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal, 325*(7374), 1195-1198.

[182] Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal, 325*(7374), 1195-1198.

[183] Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal, 325*(7374), 1195-1198.

[184] Kandel, D. B., Davies, M., Karus, D., & Yamaguchi, K. (1986). The consequences in young adulthood of adolescent drug involvement: An overview. *Archives of General Psychiatry, 43*(8), 746-754.

[185] Rao, U., Daley, S. E., & Hammen, C. (2000). Relationship between depression and substance use disorders in adolescent women during the transition to adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(2), 215-222; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003). *Food for thought: Substance abuse and eating disorders.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[186] Kessler, R. C., Crum, R. M., Warner, L. A., Nelson, C. B., Schulenberg, J., & Anthony, J. C. (1997). Lifetime co-occurrence of DSM-III-R alcohol abuse and dependence with other psychiatric disorders in the National Comorbidity Survey. *Archives of General Psychiatry, 54*(4), 313-321.

[187] Helzer, J. E., & Pryzbeck, T. R. (1988). The co-occurrence of alcoholism with other psychiatric disorders in the general population and its impact on treatment. *Journal of Studies on Alcohol, 49*(3), 219-224.

[188] Rohde, P., Lewinsohn, P. M., & Seeley, J. R. (1996). Psychiatric comorbidity with problematic alcohol use in high school students. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*(1), 101-109.

[189] Rao, U., Ryan, N. D., Dahl, R. E., Birmaher, B., Rao, R., Williamson, D. E., et al. (1999). Factors associated with the development of substance use disorder in depressed adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(9), 1109-1117.

[190] Wilens, T. E., Biederman, J., Millstein, R. B., Wozniak, J., Hahesy, A. L., & Spencer, T. J. (1999). Risk for substance use disorders in youths with child- and adolescent-onset bipolar disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(6), 680-685.

[191] Rao, U., Daley, S. E., & Hammen, C. (2000). Relationship between depression and substance use disorders in adolescent women during the transition to adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(2), 215-222.

[192] Dakof, G. A. (2000). Understanding gender differences in adolescent drug abuse: Issues of comorbidity and family functioning. *Journal of Psychoactive Drugs, 32*(1), 25-32.

[193] American Psychiatric Association. (2000). Practice guideline for the treatment of patients with eating disorders. *American Journal of Psychiatry,* 157(1), 1-39.

[194] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003). *Food for thought: Substance abuse and eating disorders.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[195] American Psychiatric Association. (2000). Practice guideline for the treatment of patients with eating disorders. *American Journal of Psychiatry, 157*(1), 1-39; Mitchell, J. E., Pyle, R. L., Specker, S., & Hanson, K. (1992). Eating disorders and chemical dependency. In J. Yager, H. E. Gwirtsman, & C. K. Edelstein (Eds.), *Special problems in managing eating disorders* (pp. 1-14). Washington, DC: American Psychiatric Press.

[196] Krahn, D. (1991). The relationship of eating disorders and substance abuse. *Journal of Substance Abuse, 3*(2), 239-253; Mitchell, J. E., Pyle, R. L., Specker, S., & Hanson, K. (1992). Eating disorders and chemical dependency. In J. Yager, H. E. Gwirtsman, & C. K. Edelstein (Eds.), *Special problems in managing eating disorders* (pp. 1-14). Washington, DC: American Psychiatric Press.

[197] Ross, H. E. & Ivis, F. (1999). Binge eating and substance use among male and female adolescents. *International Journal of Eating Disorders, 26*(3), 245-260.

[198] Krahn, D. D. (1991). The relationship of eating disorders and substance abuse. *Journal of Substance Abuse, 3*(2), 239-253.

[199] Holderness, C. C., Brooks-Gunn, J., & Warren, M. P. (1994). Co-morbidity of eating disorders and substance abuse: Review of the literature. *International Journal of Eating Disorders, 16*(1), 1-34.

[200] Field, A. E., Austin, S. B., Frazier, A. L., Gillman, M. W., Camargo, C. A., & Colditz, G. A. (2002). Smoking, getting drunk, and engaging in bulimic behaviors: In which order are the behaviors adopted? *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(7), 846-853.

[201] Hudson, J. I., Weiss, R. D., Pope, H. G., McElroy, S. K., & Mirin, S. M. (1992). Eating disorders in hospitalized substance abusers. *American Journal of Drug and Alcohol Abuse, 18*(1), 75-85; Sansone, R. A., & Sansone, L. A. (1994). Bulimia nervosa: Medical complications. In I. Alexander-Mott & D. B. Lumsden (Eds.), *Understanding eating disorders: Anorexia nervosa, bulimia nervosa, and obesity* (pp. 181-201). Washington, D.C.: Taylor and Francis, National Clearinghouse for Alcohol and Drug Information. (1997). *Drugs of abuse: Categories, descriptions, effects, symptoms of overdose, withdrawal symptoms, and indications of misuse.* Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, National Clearinghouse for Alcohol and Drug Information.

[202] Bulik, C. M. (1992). Abuse of drugs associated with eating disorders. *Journal of Substance Abuse, 4*(1), 69-90. Mitchell, J. E., Pyle, R. L., Specker, S., & Hanson, K. (1992). Eating disorders and chemical dependency. In J. Yager, H. E. Gwirtsman, & C. K. Edelstein (Eds.), *Special problems in managing eating disorders* (pp. 1-14). Washington, DC: American Psychiatric Press.

[203] National Center for Injury Prevention and Control. (2001). *Suicide in the United States.* [On-line]. Retrieved July 18, 2001 from the World Wide Web: http://www.cds.gov/ncipc.

[204] Beautrais, A. L., Joyce, P. R., & Mulder, R. T. (1999). Cannabis abuse and serious suicide attempts. *Addiction, 94*(8), 1155-1164; Borges, G., Walters, E. E., & Kessler, R. C. (2000). Associations of substance use, abuse, and dependence with subsequent suicidal behavior. *American Journal of Epidemiology, 151*(8), 781-789; Garlow, S. J. (2002). Age, gender, and ethnicity differences in patterns of cocaine and ethanol use preceding suicide. *American Journal of Psychiatry, 159*(4), 615-619; Glowinski, A. L., Bucholz, K. K., Nelson, E. C., Fu, Q., Madden, P., Reich, W., et al. (2001). Suicide attempts in an adolescent female twin sample. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(11), 1300-1307; King, R. A., Schwab-Stone, M., Flisher, A. J., Greenwald, S., Kramer, R. A., Goodman, S. H., et al. (2001). Psychosocial and risk behavior correlates of youth suicide attempts and suicidal ideation. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(7), 837-846.

[205] U.S. Department of Education. (1993). *Youth and alcohol: Selected reports to the Surgeon General* (GPO Item No. 0455-B-02). Washington, DC: Government Printing Office.

[206] Cavaiola, A. A., & Lavender, N. (1999). Suicidal behavior in chemically dependent adolescents. *Adolescence, 34*(136), 735-744; Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4); Kelly, T. M., Lynch, K. G., Donovan, J. E., & Clark, D. B. (2001). Alcohol use disorders and risk factor interactions for adolescent suicidal ideation and attempts. *Suicide and Life-Threatening Behavior, 31*(2), 181-193.

[207] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[208] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[209] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[210] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[211] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[212] Mezzich, A. C., Giancola, P. R., Tarter, R. E., Lu, S., Parks, S. M., & Barrett, C. M. (1997). Violence, suicidality, and alcohol/drug use involvement in adolescent females with a psychoactive substance use disorder and controls. *Alcoholism: Clinical and Experimental Research, 21*(7), 1300-1307.

[213] Mezzich, A. C., Giancola, P. R., Tarter, R. E., Lu, S., Parks, S. M., & Barrett, C. M. (1997). Violence, suicidality, and alcohol/drug use involvement in adolescent females with a psychoactive substance use disorder and controls. *Alcoholism: Clinical and Experimental Research, 21*(7), 1300-1307.

[214] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human

Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[215] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[216] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[217] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[218] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[219] Gauvin, F., Bailey, B., & Bratton, S. L. (2001). Hospitalizations for pediatric intoxication in Washington State, 1987-1997. *Archives of Pediatrics and Adolescent Medicine, 155*(10), 1105-1110.

[220] Gauvin, F., Bailey, B., & Bratton, S. L. (2001). Hospitalizations for pediatric intoxication in Washington State, 1987-1997. *Archives of Pediatrics and Adolescent Medicine, 155*(10), 1105-1110.

[221] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[222] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[223] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[224] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[225] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[226] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[227] Bailey, S. L., Pollock, N. K., Martin, C. S., & Lynch, K. G. (1999). Risky sexual behaviors among adolescents with alcohol use disorders. *Journal of Adolescent Health, 25*(3), 179-181; Guo, J., Chung, I. J., Hill, K. G., Hawkins, D., Catalano, R. F., & Abbott, R. D. (2002). Developmental relationships between adolescent substance use and risky sexual behavior in young adulthood. *Journal of Adolescent Health, 31*(4), 354-362; Sen, B. (2002). Does alcohol-use increase the risk of sexual intercourse among adolescents? Evidence from the NLSY97. *Journal of Health Economics, 21*(6), 1085-1093; Shafer, M. A., & Boyer, C. B. (1991). Psychosocial and behavioral factors associated with risk of sexually transmitted diseases, including human immunodeficiency virus infection, among urban high school students. *Journal of Pediatrics, 119*(5), 826-833; Staton, M., Leukefeld, C., Logan, T. K., Zimmerman, R., Lynam, D., Milich, R., et al. (1999). Gender differences in substance use and initiation of sexual activity. *Population Research and Policy Review, 18*(1-2), 89-100; Tapert, S. F., Aarons, G. A., Sedlar, G. R., & Brown, S. A. (2001). Adolescent substance use and sexual risk-taking behavior. *Journal of Adolescent Health, 28*(3), 181-189.

[228] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[229] Schwartz, R. H., Milteer, R., & LeBeau, M. A. (2000). Drug-facilitated sexual assault ("date rape"). *Southern Medical Journal, 93*(6), 558-561.

[230] Schwartz, R. H., Milteer, R., & LeBeau, M. A. (2000). Drug-facilitated sexual assault ("date rape"). *Southern Medical Journal, 93*(6), 558-561.

[231] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Dangerous liaisons: Substance abuse and sex.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[232] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Dangerous liaisons: Substance abuse and sex.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[233] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Dangerous liaisons: Substance abuse and sex.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[234] Cook, R. L., Pollock, N. K., Rao, A. K., & Clark, D. B. (2002). Increased prevalence of herpes simplex virus type 2 among adolescent women with alcohol use disorders. *Journal of Adolescent Health, 30*(3), 169-174.

[235] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Dangerous liaisons: Substance abuse and sex.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[236] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Dangerous liaisons: Substance abuse and sex.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[237] Strunin, L., & Hingson, R. (1992). Alcohol, drugs, and adolescent sexual behavior. *International Journal of the Addictions, 27*(2), 129-146.

[238] Wechsler, H. Davenport, A. E., Dowdall, G. W., Moeykens, B., & Castillo, S. (1994). Health and behavioral consequences of binge drinking in college: A national survey of 140 campuses. *JAMA, 272*(21), 1672-1677.

[239] Centers for Disease Control and Prevention. (2000). National and state-specific pregnancy rates among adolescents: United States, 1995-1997. *Morbidity and Mortality Weekly Report, 49*(27), 605-611.

[240] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[241] Henshaw, S. K. (1998). Unintended pregnancy in the United States. *Family Planning Perspectives, 30*(1), 24-29, 46.

[242] Mathews, T. J. (2001). Smoking during pregnancy in the 1990s. *National Vital Statistics Reports, 49*(7).

[243] Mathews, T. J. (2001). Smoking during pregnancy in the 1990s. *National Vital Statistics Reports, 49*(7).

[244] Mathews, T. J. (2001). Smoking during pregnancy in the 1990s. *National Vital Statistics Reports, 49*(7).

[245] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[246] Richter, L., & Richter, D. M. (2001). Exposure to parental tobacco and alcohol use: Effects on children's health and development. *American Journal of Orthopsychiatry, 71*(2), 182-203.
von Kries, R., Toschke, A. M., Koletzko, B., & Slikker, W. (2002). Maternal smoking during pregnancy and childhood obesity. *American Journal of Epidemiology, 156*(10), 954-961.

[247] Office of Applied Studies. (2002). *Substance use among pregnant women during 1999 and 2000: The NHSDA report* [Fact sheet]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[248] Office of Applied Studies. (2002). *Substance use among pregnant women during 1999 and 2000: The NHSDA report* [Fact sheet]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[249] Office of Applied Studies. (2002). *Substance use among pregnant women during 1999 and 2000: The NHSDA report* [Fact sheet]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[250] Office of Applied Studies. (2002). *Substance use among pregnant women during 1999 and 2000: The NHSDA report* [Fact sheet]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[251] Brady, J. P., Posner, M., Lang, C., & Rosati, M. J. (1994). *Risk and reality: The implications of prenatal exposure to alcohol and other drugs.* Washington, DC: U.S. Department of Education, Office of Educational Research and

Improvement, Educational Resources Information; Clark, H. W. (2001). Residential substance abuse treatment for pregnant and postpartum women and their children: Treatment and policy implications. *Child Welfare, 80*(2), 179-198.

[252] Austin, G., & Prendergast, M. (1991). Young children of substance abusers. *Prevention Research Update, 8*; Weinberg, N. Z. (1997). Cognitive and behavioral deficits associated with parental alcohol use. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*(9), 1177-1186.

[253] Young, N. K. (1997). Effects of alcohol and other drugs on children. *Journal of Psychoactive Drugs, 29*(1), 23-42.

[254] Richter, L., & Richter, D. M. (2001). Exposure to parental tobacco and alcohol use: Effects on children's health and development. *American Journal of Orthopsychiatry, 71*(2), 182-203.

[255] Famy, C., Streissguth, A. P., & Unis, A. S. (1998). Mental illness in adults with fetal alcohol syndrome or fetal alcohol effects. *American Journal of Psychiatry, 155*(4), 552-554; Richter, L., & Richter, D. M. (2001). Exposure to parental tobacco and alcohol use: Effects on children's health and development. *American Journal of Orthopsychiatry, 71*(2), 182-203.

[256] Young, N. K. (1997). Effects of alcohol and other drugs on children. *Journal of Psychoactive Drugs, 29*(1), 23-42.

[257] National Association for Children of Alcoholics. (2002). *Children of alcoholics: Important facts.* [On-line]. Retrieved November 6, 2002 from the World Wide Web: http://www.health.org.

[258] Austin, G., & Prendergast, M. (1991). Young children of substance abusers. *Prevention Research Update, 8*; Johnson, J. L., & Leff, M. (1999). Children of substance abusers: Overview of research findings. *Pediatrics, 103*(5, Pt. 2), 1085-1099; Richter, L., & Richter, D. M. (2001). Exposure to parental tobacco and alcohol use: Effects on children's health and development. *American Journal of Orthopsychiatry, 71*(2), 182-203; National Institute on Alcohol Abuse and Alcoholism. (2000). *Tenth special report to the U.S. Congress on alcohol and health: Highlights from current research from the Secretary of Health and Human Services* (NIH Publication No. 00-1583). Rockville, MD: U.S. Department of Health and Human Services, Public Health Services, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism; Weinberg, N. Z. (1997). Cognitive and behavioral deficits associated with parental alcohol use. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*(9), 1177-1186; Young, N. K. (1997). Effects of alcohol and other drugs on children. *Journal of Psychoactive Drugs, 29*(1), 23-42.

[259] Brook, J. S., Richter, L., Whiteman, M., & Cohen, P. (1999). Consequences of adolescent marijuana use: Incompatibility with the assumption of adult roles. *Genetic, Social, and General Psychology Monographs, 125*(2), 193-207; Chassin, L., Pitts, S. C., & DeLucia, C. (1999). The relation of adolescent substance use to young adult autonomy, positive activity involvement, and perceived competence. *Development and Psychopathology, 11*(4), 915-932; Chassin, L., Presson, C. C., Rose, J. S., & Sherman, S. J. (1996). The natural history of cigarette smoking from adolescence to adulthood: Demographic predictors of continuity and change. *Health Psychology, 15*(6), 478-484; Kandel, D. B., Davies, M., Karus, D., & Yamaguchi, K. (1986). The consequences in young adulthood of adolescent drug involvement: An overview. *Archives of General Psychiatry, 43*(8), 746-754; Lewinsohn, P. M., Rohde, P., & Brown, R. A. (1999). Level of current and past adolescent cigarette smoking as predictors of future substance use disorders in young adulthood. *Addiction, 94*(6), 913-921; Newcomb, M. D. (1987). Consequences of teenage drug use: The transition from adolescence to young adulthood. In S. W. Sadava (Ed.), *Drug use and psychological theory* (pp. 25-60). New York: Haworth Press; Newcomb, M. D., & Bentler, P. M. (1988). Impact of adolescent drug use and social support on problems of young adults: A longitudinal study. *Journal of Abnormal Psychology, 97*(1), 64-75.

[260] Brook, J. S., Richter, L., Whiteman, M., & Cohen, P. (1999). Consequences of adolescent marijuana use: Incompatibility with the assumption of adult roles. *Genetic, Social, and General Psychology Monographs, 125*(2), 193-207.

[261] American Medical Association. (2002). *Underage drinkers at higher risk of brain damage than adults, American Medical Association report reveals* [Press release]. Chicago: American Medical Association; Ehrlich, M. E., Sommer, J., Canas, E., & Unterwald, E. M. (2002). Periadolescent mice show enhanced DeltaFosB upregulation in response to cocaine and amphetamine. *Journal of Neuroscience, 22*(21), 9155-9159.

[262] Hanna, E. Z., Yi, H., Dufour, M., & Whitmore, C. C. (2001). The relationship of early-onset regular smoking to alcohol use, depression, illicit drug use, and other risky behaviors during early adolescence: Results from the youth supplement to the Third National Health and Nutrition Examination Survey. *Journal of Substance Abuse, 13*(3), 265-282; Hoffman, J. H., Welte, J. W., & Barnes, G. M. (2001). Co-occurrence of alcohol and cigarette use among adolescents. *Addictive Behaviors, 26*(1), 63-78; Laukkanen, E. R., Shemeikka, S. L., Viinamäki, H. T., Pölkki, P. L., & Lehtonen, J. O. (2001). Heavy drinking is associated with more severe psychosocial dysfunction among girls than boys in Finland. *Journal of Adolescent Health, 28*(4), 270-277; Lewinsohn, P. M., Rohde, P., & Brown, R. A. (1999). Level of current and past adolescent cigarette smoking as predictors of future substance use disorders in young adulthood. *Addiction, 94*(6), 913-921.

[263] Hoffman, J. H., Welte, J. W., & Barnes, G. M. (2001). Co-occurrence of alcohol and cigarette use among adolescents. *Addictive Behaviors, 26*(1), 63-78.

[264] Bucholz, K. K., Heath, A. C., & Madden, P. A. (2000). Transitions in drinking in adolescent females: Evidence from the Missouri Adolescent Female Twin Study. *Alcoholism: Clinical and Experimental Research, 24*(6), 914-923.

[265] Everett, S. A., Giovino, G. A., Warren, C. W., Crossett, L., & Kann, L. (1998). Other substance use among high school students who use tobacco. *Journal of Adolescent Health, 23*(5), 289-296.

[266] Hanna, E. Z., Yi, H., Dufour, M., & Whitmore, C. C. (2001). The relationship of early-onset regular smoking to alcohol use, depression, illicit drug use, and other risky behaviors during early adolescence: Results from the youth supplement to the Third National Health and Nutrition Examination Survey. *Journal of Substance Abuse, 13*(3), 265-282.

[267] Hanna, E. Z., Yi, H., Dufour, M., & Whitmore, C. C. (2001). The relationship of early-onset regular smoking to alcohol use, depression, illicit drug use, and other risky behaviors during early adolescence: Results from the youth supplement to the Third National Health and Nutrition Examination Survey. *Journal of Substance Abuse, 13*(3), 265-282.

[268] Hanna, E. Z., Yi, H., Dufour, M., & Whitmore, C. C. (2001). The relationship of early-onset regular smoking to alcohol use, depression, illicit drug use, and other risky behaviors during early adolescence: Results from the youth supplement to the Third National Health and Nutrition Examination Survey. *Journal of Substance Abuse, 13*(3), 265-282.

[269] Hanna, E. Z., Yi, H., Dufour, M., & Whitmore, C. C. (2001). The relationship of early-onset regular smoking to alcohol use, depression, illicit drug use, and other risky behaviors during early adolescence: Results from the youth supplement to the Third National Health and Nutrition Examination Survey. *Journal of Substance Abuse, 13*(3), 265-282.

[270] Han, C., McGue, M. K., & Iacono, W. G. (1999). Lifetime tobacco, alcohol and other substance use in adolescent Minnesota twins: Univariate and multivariate behavioral genetic analyses. *Addiction, 94*(7), 981-993.

[271] Ehrlich, M. E., Sommer, J., Canas, E., & Unterwald, E. M. (2002). Periadolescent mice show enhanced DeltaFosB upregulation in response to cocaine and amphetamine. *Journal of Neuroscience, 22*(21), 9155-9159; Hill, S. Y., Shen, S., Lowers, L., & Locke, J. (2000). Factors predicting the onset of adolescent drinking in families at high risk for developing alcoholism. *Biological Psychiatry, 48*(4), 265-275.

[272] DeWit, D. J., Adlaf, E. M., Offord, D. R., & Ogborne, A. C. (2000). Age at first alcohol use: A risk factor for the development of alcohol disorders. *American Journal of Psychiatry, 157*(5), 745-750; Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 9*,103-110.

[273] Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 9*,103-110.

[274] Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 9*,103-110.

[275] Rohde, P., Lewinsohn, P. M., Kahler, C. W., Seeley, J. R., & Brown. R. A. (2001). Natural course of alcohol use disorders from adolescence to young adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(1), 83-90.

[276] *The findings from this study also suggest that the commonly cited patterns of progression from licit to illicit substances might be limited to individuals born during a certain time period (i.e., the specific age cohort of the "baby boom generation"), rather than being a reliable pattern of behavior across all generations.* Golub, A., & Johnson, B. D. (2001). Variation in youthful risks of progression from alcohol and tobacco to marijuana and to hard drugs across generations. *American Journal of Public Health, 91*(2), 225-232.

Chapter IV
Notes

[1] Han, C., McGue, M. K., & Iacono, W. G. (1999). Lifetime tobacco, alcohol and other substance use in adolescent Minnesota twins: Univariate and multivariate behavioral genetic analyses. *Addiction, 94*(7), 981-993; Maes, H. H., Woodard, C. E., Murrelle, L., Meyer, J. M., Silberg, J. L., Hewitt, J. K., et al. (1999). Tobacco, alcohol and drug use in eight-to-sixteen-year-old twins: The Virginia Twin Study of Adolescent Behavioral Development. *Journal of Studies on Alcohol, 60*(3), 293-305; Meller, W. H., Rinehart, R., Cadoret, R. J., & Troughton, E. (1988). Specific familial transmission in substance abuse. *International Journal of the Addictions, 23*(10), 1029-1039; Rose, R. J. (1998). A developmental behavior-genetic perspective on alcoholism risk. *Alcohol Health and Research World, 22*(2), 131-143; van den Bree, M. B. M., Johnson, E. O., Neale, M. C., & Pickens, R. W. (1998). Genetic and environmental influences on drug use and abuse/dependence in male and female twins. *Drug and Alcohol Dependence, 52*(3), 231-241; van den Bree, M. B., Svikis, D. S., & Pickens, R. W. (1998). Genetic influences in antisocial personality and drug use disorders. *Drug and Alcohol Dependence, 49*(3), 177-187.

[2] Han, C., McGue, M. K., & Iacono, W. G. (1999). Lifetime tobacco, alcohol and other substance use in adolescent Minnesota twins: Univariate and multivariate behavioral genetic analyses. *Addiction, 94*(7), 981-993; Kendler, K. S., Neale, M. C., Heath, A. C., Kessler, R. C., & Eaves, L. J. (1994). A twin-family study of alcoholism in women. *American Journal of Psychiatry, 151*(5), 707-715; Maes, H. H., Woodard, C. E., Murrelle, L., Meyer, J. M., Silberg, J. L., Hewitt, J. K., et al. (1999). Tobacco, alcohol and drug use in eight-to-sixteen-year-old twins: The Virginia Twin Study of Adolescent Behavioral Development. *Journal of Studies on Alcohol, 60*(3), 293-305; Meller, W. H., Rinehart, R., Cadoret, R. J., & Troughton, E. (1988). Specific familial transmission in substance abuse. *International Journal of the Addictions, 23*(10), 1029-1039; Merikangas, K. R., Stolar, M., Stevens, D. E., Goulet, J., Preisig, M. A., Fenton, B, et al. (1998). Familial transmission of substance use disorders. *Archives of General Psychiatry, 55*(11), 973-979; Rose, R. J. (1998). A developmental behavior-genetic perspective on alcoholism risk. *Alcohol Health and Research World, 22*(2), 131-143; van den Bree, M. B. M., Johnson, E. O., Neale, M. C., & Pickens, R. W. (1998). Genetic and environmental influences on drug use and abuse/dependence in male and female twins. *Drug and Alcohol Dependence*, *52*(3), 231-241.

[3] Griesler, P. C., & Kandel, D. B. (1998). The impact of maternal drinking during and after pregnancy on the drinking of adolescent offspring. *Journal of Studies on Alcohol, 59*(3), 292-304; Kandel, D. B., Wu, P., & Davies, M. (1994). Maternal smoking during pregnancy and smoking by adolescent daughters. *American Journal of Public Health, 84*(9), 1407-1413.

[4] Griesler, P. C., & Kandel, D. B. (1998). The impact of maternal drinking during and after pregnancy on the drinking of adolescent offspring. *Journal of Studies on Alcohol, 59*(3), 292-304.

[5] Dick, D. M., Rose, R. J., Viken, R. J., & Kaprio, J. (2000). Pubertal timing and substance use: Associations between and within families across late adolescence. *Developmental Psychology, 36*(2), 180-189; Harrell, J. S., Bangdiwala, S. I., Deng, S., Webb, J. P., & Bradley, C. (1998). Smoking initiation in youth: The roles of gender, race, socioeconomics, and developmental status. *Journal of Adolescent Health, 23*(5), 271-279; Martin, C., Logan, T. K; Leukefeld, C., Milich, R., Omar, H., & Clayton, R. (2001). Adolescent and young adult substance use: Association with sensation seeking, self esteem and retrospective report of early pubertal onset: A preliminary examination. *International Journal of Adolescent Medicine and Health, 13*(3), 211-219; Prokopcakova, A. (1998). Drug experimenting and pubertal maturation in girls. *Studia Psychologica, 40*(4), 287-290; Tarter, R., Vanyukov, M., Giancola, P., Dawes, M., Blackson, T., Mezzich, A., et al. (1999). Etiology of early age onset substance use disorder: A maturational perspective. *Development and Psychopathology, 11*(4), 657-683; Tschann, J. M., Adler, N. E., Irwin Jr., C. E., Millstein, S. G., Turner, R. A., & Kegeles, S. M. (1994). Initiation of substance use in early adolescence: The roles of pubertal timing and emotional distress. *Health Psychology, 13*(4), 326-333; Wichstrøm, L. (2001). The impact of pubertal timing on adolescents' alcohol use. *Journal of Research on Adolescence, 11*(2), 131-150; Wiesner, M., & Ittel, A. (2002). Relations of pubertal timing and depressive symptoms to substance use in early adolescence. *Journal of Early Adolescence, 22*(1), 5-23; Wilson, D. M., Killen, J. D., Hayward, C., Robinson, T. N., Hammer, L. D., Kraemer, H. C., et al. (1994). Timing and rate of sexual maturation and the onset of cigarette and alcohol use among teenage girls. *Archives of Pediatrics and Adolescent Medicine, 148*(8), 789-795.

[6] Giancola, P. R., & Mezzich, A. C. (2000). Neuropsychological deficits in female adolescents with a substance use disorder: Better accounted for by conduct disorder? *Journal of Studies on Alcohol, 61*(6), 809-817; Heath, A. C., Slutske, W. S., & Madden, P. A. F. (1997). Gender differences in the genetic contribution to alcoholism risk and to alcohol consumption patterns. In R. W. Wilsnack & S. C. Wilsnack (Eds.), *Gender and alcohol: Individual and social perspectives* (pp.114-149). New Brunswick, NJ: Rutgers Center of Alcohol Studies; Slutske, W. S., Heath, A.

C., Dinwiddie, S. H., Madden, P. A. F., Bucholz, K. K., Dunne, M. P., et al. (1998). Common genetic risk factors for conduct disorder and alcohol dependence. *Journal of Abnormal Psychology, 107*(3), 363-374.

[7] *These studies help researchers differentiate between the roles of genetics versus environment in the propensity to develop a substance use disorder. Studies of adopted children allow researchers to compare the adopted child both to her biological parents with whom she shares genetic features but no environmental experiences and to her adopted parents with whom she shares environmental experiences but no genetic features. Similarly, studies of identical (monozygotic) and fraternal (dizygotic) twins allow researchers to isolate genetic similarities from environmental similarities. Identical twins are genetically identical and fraternal twins share an average of 50 percent of their genes, but both types of twins typically experience a shared environment if reared together.* Bierut, L. J., Dinwiddie, S. H., Begleiter, H., Crow, R., Hesselbrock, V., Nuurnberger, J., et al. (1998). Familial transmission of substance dependence: Alcohol, marijuana, cocaine, and habitual smoking: A report from the Collaborative Study on the Genetics of Alcoholism. *Archives of General Psychiatry, 55*(11), 982-988; Han, C., McGue, M. K., & Iacono, W. G. (1999). Lifetime tobacco, alcohol and other substance use in adolescent Minnesota twins: Univariate and multivariate behavioral genetic analyses. *Addiction,* 94(7), 981-993; Heath, A. C., Bucholz, K. K., Madden, P. A. F., Dinwiddie, S. H., Slutske, W. S., Bierut, L. J., et al. (1997). Genetic and environmental contributions to alcohol dependence risk in a national twin sample: Consistency of findings in women and men. *Psychological Medicine, 27*(6), 1381-1396; Johnson, J. L., & Leff, M. (1999). Children of substance abusers: Overview of research findings. *Pediatrics, 103*(5, Pt. 2), 1085-1099; Kendler, K. S., Heath, A. C., Neale, M. C., Kessler, R. C., & Eaves L. J. (1992). A population-based twin study of alcoholism in women. *JAMA, 268*(14), 1877-1882; Kendler, K. S., Neale, M. C., Heath, A. C., Kessler, R. C., & Eaves, L. J. (1994). A twin-family study of alcoholism in women. *American Journal of Psychiatry, 151*(5), 707-715; Kendler, K. Neale, M. C., Sullivan, P., Corey, L. A., Gardner, C. O., & Prescott, C. A. (1999). A population-based twin study in women of smoking initiation and nicotine dependence. *Psychological Medicine, 29*(2), 299-308; Maes, H. H., Woodard, C. E., Murrelle, L., Meyer, J. M., Silberg, J. L., Hewitt, J. K., et al. (1999). Tobacco, alcohol and drug use in eight-to-sixteen-year-old twins: The Virginia Twin Study of Adolescent Behavioral Development. *Journal of Studies on Alcohol, 60*(3), 293-305; McGue, M., Pickens, R. W., & Sivikis, D. S. (1992). Sex and age effects on the inheritance of alcohol problems: A twin study. *Journal of Abnormal Psychology, 101*(1), 3-17; McGue, M. (1997). A behavioral-genetic perspective on children of alcoholics. *Alcohol Health and Research World, 21*(3), 210-217; Merikangas, K. R., Stolar, M., Stevens, D. E., Goulet, J., Preisig, M. A., Fenton, B, et al. (1998). Familial transmission of substance use disorders. *Archives of General Psychiatry, 55*(11), 973-979; Prescott, C. A., Aggen, S. H., & Kendler, K. S. (1999). Sex differences in the sources of genetic liability to alcohol abuse and dependence in a population-based sample of U.S. twins. *Alcoholism: Clinical and Experimental Research*, 23(7), 1136-1144; Tarter, R., Vanyukov, M., Giancola, P., Dawes, M., Blackson, T., Mezzich, A., et al. (1999). Etiology of early age onset substance use disorder: A maturational perspective. *Development and Psychopathology, 11*(4), 657-683; van den Bree, M. B. M., Johnson, E. O., Neale, M. C., & Pickens, R. W. (1998). Genetic and environmental influences on drug use and abuse/dependence in male and female twins. *Drug and Alcohol Dependence, 52*(3), 231-241; Zickler, P. (2000). Evidence builds that genes influence cigarette smoking. *NIDA Notes, 15*(2), 1, 5.

[8] Prescott, C. A., Aggen, S. H., & Kendler, K. S. (1999). Sex differences in the sources of genetic liability to alcohol abuse and dependence in a population-based sample of U.S. twins. *Alcoholism: Clinical and Experimental Research*, 23(7), 1136-1144; van den Bree, M. B. M., Johnson, E. O., Neale, M. C., & Pickens, R. W. (1998). Genetic and environmental influences on drug use and abuse/dependence in male and female twins. *Drug and Alcohol Dependence, 52*(3), 231-241.

[9] Han, C., McGue, M. K., & Iacono, W. G. (1999). Lifetime tobacco, alcohol and other substance use in adolescent Minnesota twins: Univariate and multivariate behavioral genetic analyses. *Addiction, 94*(7), 981-993; Heath, A. C., Bucholz, K. K., Madden, P. A. F., Dinwiddie, S. H., Slutske, W. S., Bierut, L. J., et al. (1997). Genetic and environmental contributions to alcohol dependence risk in a national twin sample: Consistency of findings in women and men. *Psychological Medicine, 27*(6), 1381-1396; Heath, A. C., Slutske, W. S., & Madden, P. A. F. (1997). Gender differences in the genetic contribution to alcoholism risk and to alcohol consumption patterns. In R. W. Wilsnack & S. C. Wilsnack (Eds.), *Gender and alcohol: Individual and social perspectives* (pp.114-149). New Brunswick, NJ: Rutgers Center of Alcohol Studies; Kendler, K. S., Neale, M. C., Heath, A. C., Kessler, R. C., & Eaves, L. J. (1994). A twin-family study of alcoholism in women. *American Journal of Psychiatry, 151*(5), 707-715; Prescott, C. A., Aggen, S. H., & Kendler, K. S. (1999). Sex differences in the sources of genetic liability to alcohol abuse and dependence in a population-based sample of U.S. twins. *Alcoholism: Clinical and Experimental Research*, 23(7), 1136-1144.

[10] Heath, A. C., Slutske, W. S., & Madden, P. A. F. (1997). Gender differences in the genetic contribution to alcoholism risk and to alcohol consumption patterns. In R. W. Wilsnack & S. C. Wilsnack (Eds.), *Gender and alcohol: Individual and social perspectives* (pp.114-149). New Brunswick, NJ: Rutgers Center of Alcohol Studies; Luczak, S. E., Elvine-Kreis, B., Shea, S. H., Carr, L. G., & Wall, T. L. (2002). Genetic risk for alcoholism relates to level of response to alcohol in Asian-American men and women. *Journal of Studies on Alcohol, 63*(1), 74-82.

[11] Schuckit, M. A., Smith, T. L., Kalmijn, J., Tsuang, J., Hesselbrock, V., & Bucholz, K. (2000). Response to alcohol in daughters of alcoholics: A pilot study and a comparison with sons of alcoholics. *Alcohol and Alcoholism, 35*(3), 242-248.

[12] Lundahl, L. H., & Lukas, S. E. (2001). The impact of familial alcoholism on alcohol reactivity in female social drinkers. *Experimental and Clinical Psychopharmacology, 9*(1), 101-109.

[13] Heath, A. C., Slutske, W. S., & Madden, P. A. F. (1997). Gender differences in the genetic contribution to alcoholism risk and to alcohol consumption patterns. In R. W. Wilsnack & S. C. Wilsnack (Eds.), *Gender and alcohol: Individual and social perspectives* (pp.114-149). New Brunswick, NJ: Rutgers Center of Alcohol Studies.

[14] Kendler, K. S., Heath, A. C., Neale, M. C., Kessler, R. C., & Eaves, L. J. (1993). Alcoholism and major depression in women: A twin study of the causes of comorbidity. *Archives of General Psychiatry, 50*(9), 690-698; Kendler, K. S., Neale, M. C., MacLean, C. J., Heath, A. C., Eaves, L. J., & Kessler, R. C. (1993). Smoking and major depression: A causal analysis. *Archives of General Psychiatry, 50* (1), 36-43; Prescott, C. A., Aggen, S. H., & Kendler, K. S. (2000). Sex-specific genetic influences on the comorbidity of alcoholism and major depression in a population-based sample of US twins. *Archives of General Psychiatry, 57*(8), 803-811.

[15] Kendler, K. S., Heath, A. C., Neale, M. C., Kessler, R. C., & Eaves, L. J. (1993). Alcoholism and major depression in women. A twin study of the causes of comorbidity. *Archives of General Psychiatry, 50*(9), 690-698.

[16] Heath, A. C., Bucholz, K. K., Madden, P. A. F., Dinwiddie, S. H., Slutske, W. S., Bierut, L. J., et al. (1997). Genetic and environmental contributions to alcohol dependence risk in a national twin sample: Consistency of findings in women and men. *Psychological Medicine, 27*(6), 1381-1396; Miles, D. R., van den Bree, M. B., & Pickens, R. W. (2002). Sex differences in shared genetic and environmental influences between conduct disorder symptoms and marijuana use in adolescents. *American Journal of Medical Genetics, 114*(2), 159-168; Slutske, W. S., Heath, A. C., Dinwiddie, S. H., Madden, P. A. F., Bucholz, K. K., Dunne, M. P., et al. (1998). Common genetic risk factors for conduct disorder and alcohol dependence. *Journal of Abnormal Psychology, 107*(3), 363-374.

[17] *Although the exact biological explanation for the link between mothers' and daughters' substance use is unknown, researchers speculate that smoking or drinking may predispose the brain of the fetus to the addictive influence of these substances or women with a stronger genetic predisposition to smoke or drink may pass this predisposition on to their daughters. Why daughters are influenced more than sons remains unknown.* Griesler, P. C., & Kandel, D. B. (1998). The impact of maternal drinking during and after pregnancy on the drinking of adolescent offspring. *Journal of Studies on Alcohol, 59*(3), 292-304; Kandel, D. B., & Udry, J. R. (1999). Prenatal effects of maternal smoking on daughters' smoking: Nicotine or testosterone exposure? *American Journal of Public Health, 89*(9), 1377-1383; Kandel, D. B., Wu, P., & Davies, M. (1994). Maternal smoking during pregnancy and smoking by adolescent daughters. *American Journal of Public Health, 84*(9), 1407-1413.

[18] Kandel, D. B., Wu, P., & Davies, M. (1994). Maternal smoking during pregnancy and smoking by adolescent daughters. *American Journal of Public Health, 84*(9), 1407-1413.

[19] Kandel, D. B., Wu, P., & Davies, M. (1994). Maternal smoking during pregnancy and smoking by adolescent daughters. *American Journal of Public Health, 84*(9), 1407-1413.

[20] Griesler, P. C., & Kandel, D. B. (1998). The impact of maternal drinking during and after pregnancy on the drinking of adolescent offspring. *Journal of Studies on Alcohol, 59*(3), 292-304.

[21] Griesler, P. C., & Kandel, D. B. (1998). The impact of maternal drinking during and after pregnancy on the drinking of adolescent offspring. *Journal of Studies on Alcohol, 59*(3), 292-304.

[22] Griesler, P. C., & Kandel, D. B. (1998). The impact of maternal drinking during and after pregnancy on the drinking of adolescent offspring. *Journal of Studies on Alcohol, 59*(3), 292-304.

[23] Griesler, P. C., & Kandel, D. B. (1998). The impact of maternal drinking during and after pregnancy on the drinking of adolescent offspring. *Journal of Studies on Alcohol, 59*(3), 292-304.

[24] Griesler, P. C., & Kandel, D. B. (1998). The impact of maternal drinking during and after pregnancy on the drinking of adolescent offspring. *Journal of Studies on Alcohol, 59*(3), 292-304.

[25] Ellis, B. J., McFadyen-Ketchum, S., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1999). Quality of early family relationships and individual differences in the timing of pubertal maturation in girls: A longitudinal test of an evolutionary model. *Journal of Personality and Social Psychology, 77*(2), 387-401; Tarter, R., Vanyukov, M., Giancola, P., Dawes, M., Blackson, T., Mezzich, A., et al. (1999). Etiology of early age onset substance use

disorder: A maturational perspective. *Development and Psychopathology, 11*(4), 657-683; Tschann, J. M., Adler, N. E., Irwin Jr., C. E., Millstein, S. G., Turner, R. A., & Kegeles, S. M. (1994). Initiation of substance use in early adolescence: The roles of pubertal timing and emotional distress. *Health Psychology, 13*(4), 326-333.

[26] Dick, D. M., Rose, R. J., Viken, R. J., & Kaprio, J. (2000). Pubertal timing and substance use: Associations between and within families across late adolescence. *Developmental Psychology, 36*(2), 180-189; Harrell, J. S., Bangdiwala, S. I., Deng, S., Webb, J. P., & Bradley, C. (1998). Smoking initiation in youth: The roles of gender, race, socioeconomics, and developmental status. *Journal of Adolescent Health, 23*(5), 271-279; Martin, C., Logan, T. K; Leukefeld, C., Milich, R., Omar, H., & Clayton, R. (2001). Adolescent and young adult substance use: Association with sensation seeking, self esteem and retrospective report of early pubertal onset. A preliminary examination. *International Journal of Adolescent Medicine and Health, 13*(3), 211-219; Prokopcakova, A. (1998). Drug experimenting and pubertal maturation in girls. *Studia Psychologica, 40*(4), 287-290; Tarter, R., Vanyukov, M., Giancola, P., Dawes, M., Blackson, T., Mezzich, A., et al. (1999). Etiology of early age onset substance use disorder: A maturational perspective. *Development and Psychopathology, 11*(4), 657-683; Tschann, J. M., Adler, N. E., Irwin Jr., C. E., Millstein, S. G., Turner, R. A., & Kegeles, S. M. (1994). Initiation of substance use in early adolescence: The roles of pubertal timing and emotional distress. *Health Psychology, 13*(4), 326-333; Wichstrøm, L. (2001). The impact of pubertal timing on adolescents' alcohol use. *Journal of Research on Adolescence, 11*(2), 131-150; Wiesner, M., & Ittel, A. (2002). Relations of pubertal timing and depressive symptoms to substance use in early adolescence. *Journal of Early Adolescence, 22*(1),5-23; Wilson, D. M., Killen, J. D., Hayward, C., Robinson, T. N., Hammer, L. D., Kraemer, H. C., et al. (1994). Timing and rate of sexual maturation and the onset of cigarette and alcohol use among teenage girls. *Archives of Pediatrics and Adolescent Medicine, 148*(8), 789-795.

[27] Prokopcakova, A. (1998). Drug experimenting and pubertal maturation in girls. *Studia Psychologica, 40*(4), 287-290.

[28] Dick, D. M., Rose, R. J., Viken, R. J., & Kaprio, J. (2000). Pubertal timing and substance use: Associations between and within families across late adolescence. *Developmental Psychology, 36*(2), 180-189.

[29] Dick, D. M., Rose, R. J., Viken, R. J., & Kaprio, J. (2000). Pubertal timing and substance use: Associations between and within families across late adolescence. *Developmental Psychology, 36*(2), 180-189.

[30] Stice, E., Presnell, K., & Bearman, S. K. (2001). Relation of early menarche to depression, eating disorders, substance abuse, and comorbid psychopathology among adolescent girls. *Developmental Psychology, 37*(5), 608-619.

[31] Ellis, B. J., McFadyen-Ketchum, S., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1999). Quality of early family relationships and individual differences in the timing of pubertal maturation in girls: A longitudinal test of an evolutionary model. *Journal of Personality and Social Psychology, 77*(2), 387-401; Treloar, S. A., & Martin, N. G. (1990). Age at menarche as a fitness trait: Nonadditive genetic variance detected in a large twin sample. *American Journal of Human Genetics, 47*(1), 137-148.

[32] Bauman, K. E., Foshee, V. A., Koch, G. G., Haley, N. J., & Downton, M. I. (1989). Testosterone and cigarette smoking in early adolescence. *Journal of Behavioral Medicine, 12*(5), 425-433; Kandel, D. B., & Udry, J. R. (1999). Prenatal effects of maternal smoking on daughters' smoking: Nicotine or testosterone exposure? *American Journal of Public Health, 89*(9), 1377-1383; Martin, C. A., Logan, T. K., Portis, C., Leukefeld, C. G., Lynam, D., Staton, M., et al. (2001). The association of testosterone with nicotine use in young adult females. *Addictive Behaviors, 26*(2), 279-283.

[33] Caspi, A., Lynam, D., Moffitt, T. E., & Silva, P. A. (1993). Unraveling girls' delinquency: Biological, dispositional, and contextual contributions to adolescent misbehavior. *Developmental Psychology, 29*(1), 19-30; Dick, D. M., Rose, R. J., Viken, R. J., & Kaprio, J. (2000). Pubertal timing and substance use: Associations between and within families across late adolescence. *Developmental Psychology, 36*(2), 180-189; Prokopcakova, A. (1998). Drug experimenting and pubertal maturation in girls. *Studia Psychologica, 40*(4), 287-290; Stice, E., Presnell, K., & Bearman, S. K. (2001). Relation of early menarche to depression, eating disorders, substance abuse, and comorbid psychopathology among adolescent girls. *Developmental Psychology, 37*(5), 608-619; Tarter, R., Vanyukov, M., Giancola, P., Dawes, M., Blackson, T., Mezzich, A., et al. (1999). Etiology of early age onset substance use disorder: A maturational perspective. *Development and Psychopathology, 11*(4), 657-683; Tschann, J. M., Adler, N. E., Irwin Jr., C. E., Millstein, S. G., Turner, R. A., & Kegeles, S. M. (1994). Initiation of substance use in early adolescence: The roles of pubertal timing and emotional distress. *Health Psychology, 13*(4), 326-333.

[34] Crisp, A., Sedgwick, P., Halek, C., Joughin, N., & Humphrey, H. (1999). Why may teenage girls persist in smoking? *Journal of Adolescence, 22*(5), 657-672; Dawes, M. A., Antelman, S. M., Vanyukov, M. M., Giancola, P., Tarter, R. E., Susman, E. J., et al. (2000). Developmental sources of variation in liability to adolescent substance use

disorders. *Drug and Alcohol Dependence, 61*(1), 3-14; Prokopcakova, A. (1998). Drug experimenting and pubertal maturation in girls. *Studia Psychologica, 40*(4), 287-290.

[35] Raap, D. K., Morin, B., Medici, C. N., & Smith, R. F. (2000). Adolescent cocaine and injection stress effects on the estrous cycle. *Physiology and Behavior, 70*(5), 417-424.

[36] Dees, W. L., Srivastava, V. K., & Hiney, J. K. (2001). Alcohol and female puberty: The role of intraovarian systems. *Alcohol Research and Health, 25*(4), 271-275.

Chapter V
Notes

[1] Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[2] Voorhees, C. C., Schreiber, G. B., Schumann, B. C., Biro, F., & Crawford, P. B. (2002). Early predictors of daily smoking in young women: The National Heart, Lung, and Blood Institute Growth and Health Study. *Preventive Medicine, 34*(6), 616-624; Wiseman, C.V., Turco, R. M., Sunday, S. R., & Halmi, K. A. (1998). Smoking and body image concerns in adolescent girls. *International Journal of Eating Disorders, 24*(4), 429-433.

[3] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[4] Costello, E. J., Armstrong, T. D., & Erkanli, A. (2000). *Report on the developmental epidemiology of comorbid psychiatric and substance use disorders.* Durham, NC: Duke University Medical Center, Center for Developmental Epidemiology.

[5] Wills, T. A., Sandy, J. M., Shinar, O., & Yaeger, A. (1999). Contributions of positive and negative affect to adolescent substance use: Test of a bidimensional model in a longitudinal study. *Psychology of Addictive Behaviors, 13*(4), 327-338.

[6] Simantov, E., Schoen, C., & Klein, J. D. (2000). Health-compromising behaviors: Why do adolescents smoke or drink? Identifying underlying risk and protective factors. *Archives of Pediatrics and Adolescent Medicine, 154*(10), 1025-1033.

[7] Mooney, D. K., Fromme, K., Kivlahan, D. R., & Marlatt, G. A. (1987). Correlates of alcohol consumption: Sex, age, and expectancies relate differentially to quantity and frequency. *Addictive Behaviors, 12*(3), 235-240.

[8] Christiansen, B. A., Smith, G. T., Roehling, P. V., & Goldman, M. S. (1989). Using alcohol expectancies to predict adolescent drinking behavior at one year. *Journal for Consulting and Clinical Psychology, 57*(1), 93-99; Dunn, M. E., & Goldman, M. S. (1998). Age and drinking-related differences in the memory organization of alcohol expectancies in 3rd-, 6th-, 9th-, and 12th-grade children. *Journal of Consulting and Clinical Psychology, 66*(3), 579-585; Earleywine, M. (1995). Expectancy accessibility, alcohol expectancies, and intentions to consume alcohol. *Journal of Applied Social Psychology, 25*(11), 933-943; Novacek, J., Raskin, R., & Hogan, R. (1991). Why do adolescents use drugs? Age, sex, and user differences. *Journal of Youth and Adolescence, 20*(5), 475-492; Simantov, E., Schoen, C., & Klein, J. D. (2000). Health-compromising behaviors: Why do adolescents smoke or drink? Identifying underlying risk and protective factors. *Archives of Pediatrics and Adolescent Medicine, 154*(10), 1025-1033.

[9] Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[10] Wilsnack, R. W., Wilsnack, S. C., Kristjanson, A. F., & Harris, T. B. (1998). Ten-year prediction of women's drinking behavior in a nationally representative sample. *Women's Health, 4*(3), 199-230.

[11] Aboud, F. E., & Dennis, S. C. (1998). *Adolescent use and abuse of alcohol.* In D. Pushkar, W. M. Bukowski, A. E. Schwartzman, D. M. Stack, & D. R. White (Eds.), *Improving competence across the lifespan: Building interventions based on theory and research.* New York: Plenum Press; Adger, H. (1992). Alcohol and other drug use and abuse in adolescents. In D. E. Rogers, & E. Ginzburg (Eds.), *Adolescents at risk: Medical and social perspectives* (pp. 80-94). Boulder, CO: Westview Press; Kumpulainen, K., & Roine, S. (2002). Depressive symptoms at the age of 12 years and future heavy alcohol use. *Addictive Behaviors, 27*(3), 425-436; Scheir, L. M., Botvin, G. J., Griffin, K. W., & Diaz, T. (2000). Dynamic growth models of self-esteem and adolescent alcohol use. *Journal of Early Adolescence, 20*(2), 178-209.

[12] Benard, B. (1991). *Fostering resiliency in kids: Protective factors in family, school, and community.* Portland, OR: Northwest Regional Educational Laboratory.

[13] Block, J., Block, J. H., & Keyes, S. (1988). Longitudinally foretelling drug usage in adolescence: Early childhood personality and environmental precursors. *Child Development, 59*(2), 336-355; Friedman, A. S., Granick, S., Bransfield, S., Kreisher, C., & Khalsa, J. (1995). Gender differences in early life risk factors for substance use/abuse: A study of an African-American sample. *American Journal of Drug and Alcohol Abuse, 21*(4), 511-531; Shedler, J., & Block, J. (1990). Adolescent drug use and psychological health: A longitudinal inquiry. *American Psychologist, 45*(5), 612-630; Tarter, R. E. (1988). Are there inherited behavioral traits that predispose to substance

abuse? *Journal of Consulting and Clinical Psychology, 56*(2), 189-196; Windle, M. (1991). The difficult temperament in adolescence: Associations with substance use, family support, and problem behaviors. *Journal of Clinical Psychology, 47*(2), 310-315.

[14] Kumpulainen, K. (2000). Psychiatric symptoms and deviance in early adolescence predict heavy alcohol use 3 years later. *Addiction, 95*(12), 1847-1857; Lerner, J. V., & Vicary, J. R. (1984). Difficult temperament and drug use: Analyses from the New York Longitudinal Study. *Journal of Drug Education, 14*(1), 1-8; Reinherz, H. Z., Giaconia, R. M., Hauf, A. M., Wasserman, M. S., & Paradis, A. D. (2000). General and specific childhood risk factors for depression and drug disorders by early adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(2), 223-231; Shedler, J., & Block, J. (1990). Adolescent drug use and psychological health: A longitudinal inquiry. *American Psychologist, 45*(5), 612-630; Wills, T. A., McNamara, G., Vaccaro, D., & Hirky, A. E. (1996). Escalated substance use: A longitudinal grouping analysis from early to middle adolescence. *Journal of Abnormal Psychology, 105*(2), 166-180; Windle, M. (1991). The difficult temperament in adolescence: Associations with substance use, family support, and problem behaviors. *Journal of Clinical Psychology, 47*(2), 310-315.

[15] Block, J., Block, J. H., & Keyes, S. (1988). Longitudinally foretelling drug usage in adolescence: Early childhood personality and environmental precursors. *Child Development, 59*(2), 336-355.

[16] Moss, H. B., & Lynch, K. G. (2001). Comorbid disruptive behavior disorder symptoms and their relationship to adolescent alcohol use disorders. *Drug and Alcohol Dependence, 64*(1), 75-83.

[17] Disney, E. R., Elkins, I. J., McGue, M., & Iacono, W. G. (1999). Effects of ADHD, conduct disorder, and gender on substance use and abuse in adolescence. *American Journal of Psychiatry, 156*(10), 1515-1521; Heath, A. C., Bucholz, K. K., Madden, P. A. F., Dinwiddie, S. H., Slutske, W. S., Bierut, L. J., et al. (1997). Genetic and environmental contributions to alcohol dependence risk in a national twin sample: Consistency of findings in women and men. *Psychological Medicine, 27*(6), 1381-1396; Lewis, C. E., & Bucholz, K. K. (1991). Alcoholism, antisocial behavior and family history. *British Journal of Addiction, 86*(2), 177-194.

[18] Disney, E. R., Elkins, I. J., McGue, M., & Iacono, W. G. (1999). Effects of ADHD, conduct disorder, and gender on substance use and abuse in adolescence. *American Journal of Psychiatry, 156*(10), 1515-1521.

[19] Heath, A. C., Bucholz, K. K., Madden, P. A. F., Dinwiddie, S. H., Slutske, W. S., Bierut, L. J., et al. (1997). Genetic and environmental contributions to alcohol dependence risk in a national twin sample: Consistency of findings in women and men. *Psychological Medicine, 27*(6), 1381-1396.

[20] Robins, L. N., & Price, R. K. (1991). Adult disorders predicted by childhood conduct problems: Results from the NIMH Epidemiologic Catchment Area Project. *Psychiatry, 54*(2), 116-132.

[21] Pedersen, W., Mastekaasa, A., & Wichstrom, L. (2001). Conduct problems and early cannabis initiation: A longitudinal study of gender differences. *Addiction, 96*(3), 415-431.

[22] Beck, K. H., Thombs, D. L., Mahoney, C. A., & Fingar, K. M. (1995). Social context and sensation-seeking: Gender differences in college student drinking motivations. *International Journal of the Addictions, 30*(9), 1101-1115; Burt, R. D., Dinh, K. T., Peterson, A. V., & Sarason, I. G. (2000). Predicting adolescent smoking: A prospective study of personality variables. *Preventive Medicine, 30*(2), 115-125; Castro, F. G., Maddahian, E., Newcomb, M. D., & Bentler, P. M. (1987). A multivariate model of cigarette smoking among adolescents. *Journal of Health and Social Behavior, 28*(3), 273-289; Cicchetti, D., & Rogosch, F. A. (1999). Psychopathology as risk for adolescent substance use disorders: A developmental psychopathology perspective. *Journal of Clinical Psychology, 28*(3), 355-365; Colder, C. R., & Chassin, L. (1993). The stress and negative affect model of adolescent alcohol use and the moderating effects of behavioral undercontrol. *Journal of Studies on Alcohol, 54*(3), 326-333; Johnson, H. L., & Johnson, P. B. (1997). Understanding early adolescent smoking and drinking. In B. Bain, H. Janzen, J. Paterson, L. Stewin, & A. Yu (Eds.), *Psychology and education in the 21st century: Proceedings of the International Council of Psychologists 54th Convention* (pp. 153-158). Edmonton, Alberta: IC Press; Lewis, C. E., & Bucholz, K. K. (1991). Alcoholism, antisocial behavior and family history. *British Journal of Addiction, 86*(2), 177-194; Parent, E. C., & Newman, D. L. (1999). The role of sensation-seeking in alcohol use and risk-taking behavior among college women. *Journal of Alcohol and Drug Education, 44*(2), 12-28; Schall, M., Kemeny, A., & Maltzman, I. (1992). Factors associated with alcohol use in university students. *Journal of Studies on Alcohol, 53*(2), 122-136.

[23] Burt, R. D., Dinh, K. T., Peterson, A. V., & Sarason, I. G. (2000). Predicting adolescent smoking: A prospective study of personality variables. *Preventive Medicine, 30*(2), 115-125.

[24] Brooks, T. L., Harris, S. K., Thrall, J. S., & Woods, E. R. (2002). Association of adolescent risk behaviors with mental health symptoms in high school students. *Journal of Adolescent Health, 31*(3), 240-246; Nolen-Hoeksema, S. (2001). Gender differences in depression. *Current Directions in Psychological Science, 10*(5), 173-176; Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[25] Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[26] Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[27] Stein, J. A., Newcomb, M. D., & Bentler, P. M. (1996). Initiation and maintenance of tobacco smoking: Changing personality correlates in adolescence and young adulthood. *Journal of Applied Social Psychology, 26*(2), 160-187.

[28] Martin, C. S., Lynch, K. G., Pollock, N. K., & Clark, D. B. (2000). Gender differences and similarities in the personality correlates of adolescent alcohol problems. *Psychology of Addictive Behaviors, 14*(2), 121-133; Noel, N. E., & Lisman, S. A. (1980). Alcohol consumption by college women following exposure to unsolvable problems: Learned helplessness or stress induced drinking? *Behavior Research and Therapy, 18*(5), 429-440; Shedler, J., & Block, J. (1990). Adolescent drug use and psychological health: A longitudinal inquiry. *American Psychologist, 45*(5), 612-630; Stice, E., & Gonzales, N. (1998). Adolescent temperament moderates the relation of parenting to antisocial behavior and substance use. *Journal of Adolescent Research, 13*(1), 5-31.

[29] $F\ (14,187) = 6.89,\ p < .001$

[30] $F\ (14,187) = 4.53,\ p < .001$

[31] $b = 11,\ t = 2.01,\ p < .05$

[32] Dixit, A. R., & Crum, R. M. (2000). Prospective study of depression and the risk of heavy alcohol use in women. *American Journal of Psychiatry, 157*(5), 751-758; Martin, C. S., Lynch, K. G., Pollock, N. K., & Clark, D. B. (2000). Gender differences and similarities in the personality correlates of adolescent alcohol problems. *Psychology of Addictive Behaviors, 14*(2), 121-133; Patton, G. C., Hibbert, M., Rosier, M. J., Carlin, J. B., Caust, J., & Bowes, G. (1996). Is smoking associated with depression and anxiety in teenagers? *American Journal of Public Health, 86*(2), 225-230; Tschann, J. M., Adler, N. E., Irwin, C. E., Millstein, S. G., Turner, R. A., & Kegeles, S. M. (1994). Initiation of substance use in early adolescence: The roles of pubertal timing and emotional distress. *Health Psychology, 13*(4), 326-333; Wills, T. A. (1986). Stress and coping in early adolescence: Relationships to substance use in urban school samples. *Health Psychology, 5*(6), 503-529.

[33] Kaplow, J. B., Curran, P. J., Angold, A., & Costello, E. J. (2001). The prospective relation between dimensions of anxiety and the initiation of adolescent alcohol use. *Journal of Clinical Child Psychology, 30*(3), 316-326.

[34] Reinherz, H. Z., Giaconia, R. M., Hauf, A. M., Wasserman, M. S., & Paradis, A. D. (2000). General and specific childhood risk factors for depression and drug disorders by early adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(2), 223-231.

[35] Pedersen, W., Mastekaasa, A., & Wichstrom, L. (2001). Conduct problems and early cannabis initiation: A longitudinal study of gender differences. *Addiction, 96*(3), 415-431.

[36] Block, J., Block, J. H., & Keyes, S. (1988). Longitudinally foretelling drug usage in adolescence: Early childhood personality and environmental precursors. *Child Development, 59*(2), 336-355.

[37] Block, J., Block, J. H., & Keyes, S. (1988). Longitudinally foretelling drug usage in adolescence: Early childhood personality and environmental precursors. *Child Development, 59*(2), 336-355.

[38] Johnson, N. G., Roberts, M. C., & Worell, J. (1999). *Beyond appearance: A new look at adolescent girls.* Washington, DC: American Psychological Association.

[39] Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[40] Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[41] Kumpulainen, K., & Roine, S. (2002). Depressive symptoms at the age of 12 years and future heavy alcohol use. *Addictive Behaviors, 27*(3), 425-436.

[42] Kumpulainen, K., & Roine, S. (2002). Depressive symptoms at the age of 12 years and future heavy alcohol use. *Addictive Behaviors, 27*(3), 425-436.

[43] Aloise-Young, P. A., & Hennigan, K. M. (1996). Self-image, the smoker stereotype and cigarette smoking: Developmental patterns from fifth through eighth grade. *Journal of Adolescence, 19*(2), 163-177; Seguire, M., & Chalmers, K. I. (2000). Late adolescent female smoking. *Journal of Advanced Nursing, 31*(6), 1422-1429.

[44] Seguire, M., & Chalmers, K. I. (2000). Late adolescent female smoking. *Journal of Advanced Nursing, 31*(6), 1422-1429.

[45] Amos, A., Gray, D., Currie, C., & Elton, R. (1997). Healthy or druggy? Self-image, ideal image and smoking behaviour among young people. *Social Science and Medicine, 45*(6), 847-858.

[46] Amos, A., Gray, D., Currie, C., & Elton, R. (1997). Healthy or druggy? Self-image, ideal image and smoking behaviour among young people. *Social Science and Medicine, 45*(6), 847-858.

[47] Amos, A., Gray, D., Currie, C., & Elton, R. (1997). Healthy or druggy? Self-image, ideal image and smoking behaviour among young people. *Social Science and Medicine, 45*(6), 847-858.

[48] Amos, A., Gray, D., Currie, C., & Elton, R. (1997). Healthy or druggy? Self-image, ideal image and smoking behaviour among young people. *Social Science and Medicine, 45*(6), 847-858.

[49] Walitzer, K. S., & Sher, K. J. (1996). A prospective study of self-esteem and alcohol use disorders in early adulthood: Evidence for gender differences. *Alcoholism: Clinical and Experimental Research, 20*(6), 1118-1124.

[50] Walitzer, K. S., & Sher, K. J. (1996). A prospective study of self-esteem and alcohol use disorders in early adulthood: Evidence for gender differences. *Alcoholism: Clinical and Experimental Research, 20*(6), 1118-1124.

[51] Wright, L. S. (1983). Correlates of reported drinking problems among male and female college students. *Journal of Alcohol and Drug Education, 28*(3), 47-57.

[52] Ludwig, K. B., & Pittman, J. F. (1999). Adolescent prosocial values and self-efficacy in relation to delinquency, risky sexual behavior, and drug use. *Youth and Society, 30*(4), 461-482.

[53] Hops, H., Davis, B., & Lewin, L. M. (1999). The development of alcohol and other substance use: A gender study of family and peer context. *Journal of Studies on Alcohol, Suppl. 13,* 22-31.

[54] Hops, H., Davis, B., & Lewin, L. M. (1999). The development of alcohol and other substance use: A gender study of family and peer context. *Journal of Studies on Alcohol, Suppl. 13,* 22-31

[55] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *National survey of American attitudes on substance abuse VII: Teens, parents and siblings.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[56] Zucker, R. A., & Fitzgerald, H. E. (1991). Early developmental factors and risk for alcohol problems. *Alcohol Health and Research World, 15*(1), 18-24.

[57] Pulkkinen, L., & Pitkanen, T. A. (1994). A prospective study of the precursors to problem drinking in young adulthood. *Journal of Studies on Alcohol, 55*(5), 578-587.

[58] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[59] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[60] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[61] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003). *Food for thought: Substance abuse and eating disorders.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[62] Austin, S. B., & Gortmaker, S. L. (2001). Dieting and smoking initiation in early adolescent girls and boys: A prospective study. *American Journal of Public Health, 91*(3), 446-450; Field, A. E., Austin, S. B., Frazier, A. L., Gillman, M. W., Camargo, C. A., & Colditz, G. A. (2002). Smoking, getting drunk, and engaging in bulimic behaviors: In which order are the behaviors adopted? *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(7), 846-853; French, S. A., Perry, C. L., Leon, G. R., & Fulkerson, J. A. (1994). Weight concerns, dieting behavior, and smoking initiation among adolescents: A prospective study. *American Journal of Public Health, 84*(11), 1818-1820; French, S. A., Story, M., Downes, B., Resnick, M. D., & Blum, R. W. (1995). Frequent dieting among adolescents: Psychosocial and health behavior correlates. *American Journal of Public Health, 85*(5), 695-701; Tomeo, C. A., Field, A. E., Berkey, C. S., Colditz, G. A., & Frazier, A. L. (1999). Weight concerns, weight control behaviors, and smoking initiation. *Pediatrics, 104*(4), 918-924; Voorhees, C. C., Schreiber, G. B., Schumann, B. C., Biro, F., & Crawford, P. B. (2002). Early predictors of daily smoking in young women: The National Heart, Lung, and Blood Institute Growth and Health Study. *Preventive Medicine, 34*(6), 616-624.

[63] Camp, D. E., Klesges, R. C., & Relyea, G. (1993). The relationship between body weight concerns and adolescent smoking. *Health Psychology, 12*(1), 24-32; Frank, R. E., Serdula, M. K., & Adame, D. (1991). Weight loss and bulimic eating behavior: Changing patterns within a population of young adult women. *Southern Medical Journal, 84*(4), 457-460; Ogden, J., & Fox, P. (1994). Examination of the use of smoking for weight control in restrained and unrestrained eaters. *International Journal of Eating Disorders, 16*(2), 177-185; Wee, C. C., Rigotti, N. A., Davis, R. B., & Phillips, R. S. (2001). Relationship between smoking and weight control efforts among adults in the United States. *Archives of Internal Medicine, 161*(4), 546-550.

[64] $X^2 = 47.05, p < .001$

[65] Voorhees, C. C., Schreiber, G. B., Schumann, B. C., Biro, F., & Crawford, P. B. (2002). Early predictors of daily smoking in young women: The National Heart, Lung, and Blood Institute Growth and Health Study. *Preventive Medicine, 34*(6), 616-624; Wiseman, C.V., Turco, R. M., Sunday, S. R., & Halmi, K. A. (1998). Smoking and body image concerns in adolescent girls. *International Journal of Eating Disorders, 24*(4), 429-433.

[66] Klesges, L.M., & Meyers, A. W. (1989). Smoking, body weight and their effects on smoking behavior: A comprehensive review of the literature. *Psychological Bulletin*, *106*(2), 204-230.

[67] $F(2,98) = 3.12, p < .05$

[68] Field, A. E., Austin, S. B., Frazier, A. L., Gillman, M. W., Camargo, C. A., & Colditz, G. A. (2002). Smoking, getting drunk, and engaging in bulimic behaviors: In which order are the behaviors adopted? *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(7), 846-853.

[69] Voorhees, C. C., Schreiber, G. B., Schumann, B. C., Biro, F., & Crawford, P. B. (2002). Early predictors of daily smoking in young women: The National Heart, Lung, and Blood Institute Growth and Health Study. *Preventive Medicine, 34*(6), 616-624.

[70] Tomeo, C. A., Field, A. E., Berkey, C. S., Colditz, G. A., & Frazier, A. L. (1999). Weight concerns, weight control behaviors, and smoking initiation. *Pediatrics, 104*(4), 918-924.

[71] Austin, S. B., & Gortmaker, S. L. (2001). Dieting and smoking initiation in early adolescent girls and boys: A prospective study. *American Journal of Public Health, 91*(3), 446-450.

[72] Austin, S. B., & Gortmaker, S. L. (2001). Dieting and smoking initiation in early adolescent girls and boys: A prospective study. *American Journal of Public Health, 91*(3), 446-450.

[73] Dansky, B. S., Brewerton, T. D., & Kilpatrick, D. G. (2000). Comorbidity of bulimia nervosa and alcohol use disorders: Results from the National Women's Study. *International Journal of Eating Disorders, 27*(2), 180-190, Goldbloom, D. S. (1993). Alcohol misuse and eating disorders: Aspects of an association. *Alcohol and Alcoholism, 28*(4), 375-381; Goldbloom, D. S., Naranjo, C. A., Bremner, K. E., & Hicks, L. K. (1992). Eating disorders and alcohol abuse in women. *British Journal of Addiction, 87*(6), 913-920; Holderness, C. C., Brooks-Gunn, J., & Warren, M. P. (1994). Co-morbidity of eating disorders and substance abuse: Review of the literature. *International Journal of Eating Disorders, 16*(1), 1-34; Krahn, D. D. (1991). The relationship of eating disorders and substance abuse. *Journal of Substance Abuse, 3*(2), 239-253; Krahn, D., Kurth, C., Demitrack, M., & Drewnowski, A. (1992). The relationship of dieting severity and bulimic behaviors to alcohol and other drug use in young women. *Journal of Substance Abuse, 4*(4), 341-353; Timmerman, M. G., Wells, L. A., & Chen. S. (1990). Bulimia nervosa and associated alcohol abuse among secondary school students. *Journal of the American Academy of Child and Adolescent Psychiatry, 29(1)*, 118-122; Zweben, J. E. (1987). Eating disorders and substance abuse. *Journal of Psychoactive Drugs, 19*(2), 181-192.

[74] Stewart, S. H., Angelopoulos, M., Baker, J. M., & Boland, F. J. (2000). Relations between dietary restraint and patterns of alcohol use in young adult women. *Psychology of Addictive Behaviors, 14*(1), 77-82.

[75] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

[76] $F(3,334) = 3.43, p < .05$

[77] $t(84) = 2.40, p < .05$

[78] $F(2,277) = 3.11, p < .05$

[79] $F(2,502) = 3.45, p < .05$

[80] Krahn, D., Kurth, C., Demitrack, M., & Drewnowski, A. (1992). The relationship of dieting severity and bulimic behaviors to alcohol and other drug use in young women. *Journal of Substance Abuse, 4*(4), 341-353.

[81] Field, A. E., Austin, S. B., Frazier, A. L., Gillman, M. W., Camargo, C. A., & Colditz, G. A. (2002). Smoking, getting drunk, and engaging in bulimic behaviors: In which order are the behaviors adopted? *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(7), 846-853.

[82] Krahn, D., Kurth, C., Demitrack, M., & Drewnowski, A. (1992). The relationship of dieting severity and bulimic behaviors to alcohol and other drug use in young women. *Journal of Substance Abuse, 4*(4), 341-353.

[83] Krahn, D., Kurth, C., Demitrack, M., & Drewnowski, A. (1992). The relationship of dieting severity and bulimic behaviors to alcohol and other drug use in young women. *Journal of Substance Abuse, 4*(4), 341-353.

[84] Stewart, S. H., Angelopoulos, M., Baker, J. M., & Boland, F. J. (2000). Relations between dietary restraint and patterns of alcohol use in young adult women. *Psychology of Addictive Behaviors, 14*(1), 77-82.

[85] Hudson, J. I., Weiss, R. D., Pope, H. G., McElroy, S. K., & Mirin, S. M. (1992). Eating disorders in hospitalized substance abusers. *American Journal of Drug and Alcohol Abuse, 18*(1), 75-85; Sansone, R. A., & Sansone, L. A.

(1994). Bulimia nervosa: Medical complications. In I. Alexander-Mott & D. B. Lumsden (Eds.), *Understanding eating disorders: Anorexia nervosa, bulimia nervosa, and obesity* (pp. 181-201). Washington, D.C.: Taylor and Francis; Wiederman, M. W., & Pryor, T. (1996). Substance use among women with eating disorders. *International Journal of Eating Disorders, 20*(2), 163-168.

[86] Gold, M. S. (1992). Cocaine (and crack): Clinical aspects. In J.H. Lowinson, P. Ruiz, & R. B. Millman (Eds.), *Substance abuse: A comprehensive textbook* (2^{nd} ed.). Baltimore, MD: Williams and Wilkens.

[87] Bulik, C. M. (1992). Abuse of drugs associated with eating disorders. *Journal of Substance Abuse, 4*(1), 69-90; Mitchell, J. E., Pyle, R. L., Specker, S., & Hanson, K. (1992). Eating disorders and chemical dependency. In J. Yager, H. E. Gwirtsman, & C. K. Edelstein (Eds.), *Special problems in managing eating disorders* (pp. 1-14). Washington, DC: American Psychiatric Press.

[88] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[89] Earleywine, M., & Martin, C. S. (1993). Anticipated stimulant and sedative effects of alcohol vary with dosage and limb of the blood alcohol curve. *Alcoholism: Clinical and Experimental Research, 17*(1), 135-139; Ouellette, J. A., Gerrard, M., Gibbons, F. X., & Reis-Bergan, M. (1999). Parents, peers, and prototypes: Antecedents of adolescent alcohol expectancies, alcohol consumption, and alcohol-related life problems in rural youth. *Psychology of Addictive Behaviors, 13*(3), 183-197; Stacy, A. W., Galaif, E. R., Sussman, S., & Dent, C. W. (1996). Self-generated drug outcomes in high-risk adolescents. *Psychology of Addictive Behaviors, 10*(1), 18-27.

[90] Dunn, M. E., & Goldman, M. S. (1996). Empirical modeling of an alcohol expectancy memory network in elementary school as a function of grade. *Experimental and Clinical Psychopharmacology, 4*(2), 209-217; Gillmore, M. R., Wells, E. A., Simpson, E. E., Morrison, D. M., Hoppe, M. J., & Wilsdon, A. (1998). Children's beliefs about drinking. *American Journal of Drug and Alcohol Abuse, 24*(1), 131-151.

[91] Gibbons, F. X., Gerrard, M., & McCoy, S. B. (1995). Prototype perception predicts (lack of) pregnancy prevention. *Personality and Social Psychology Bulletin, 21*(1), 85-93; Ouellette, J. A., Gerrard, M., Gibbons, F. X., & Reis-Bergan, M. (1999). Parents, peers, and prototypes: Antecedents of adolescent alcohol expectancies, alcohol consumption, and alcohol-related life problems in rural youth. *Psychology of Addictive Behaviors, 13*(3), 183-197.

[92] Colder, C. R., Chassin, L., Stice, E. M., & Curran, P. J. (1997). Alcohol expectancies as potential mediators of parent alcoholism: Effect on the development of adolescent heavy drinking. *Journal of Research on Adolescence, 7*(4), 349-374; Johnson, H. L., & Johnson, P. B. (1997). Understanding early adolescent smoking and drinking. In B. Bain, H. Janzen, J. Paterson, L. Stewin, & A. Yu (Eds.), *Psychology and education in the 21st century: Proceedings of the International Council of Psychologists 54th Convention* (pp. 153-158). Edmonton, Alberta: IC Press.

[93] Johnson, H. L., & Johnson, P. B. (1997). Understanding early adolescent smoking and drinking. In B. Bain, H. Janzen, J. Paterson, L. Stewin, & A. Yu (Eds.), *Psychology and education in the 21st century: Proceedings of the International Council of Psychologists 54th Convention* (pp. 153-158). Edmonton, Alberta: IC Press.

[94] Johnson, H. L., & Johnson, P. B. (1997). Understanding early adolescent smoking and drinking. In B. Bain, H. Janzen, J. Paterson, L. Stewin, & A. Yu (Eds.), *Psychology and education in the 21st century: Proceedings of the International Council of Psychologists 54th Convention* (pp. 153-158). Edmonton, Alberta: IC Press.

[95] Slovic, P. (2000). What does it mean to know a cumulative risk? Adolescents' perceptions of short-term and long-term consequences of smoking. *Journal of Behavioral Decision Making, 13*(2), 259-266.

[96] Slovic, P. (2000). What does it mean to know a cumulative risk? Adolescents' perceptions of short-term and long-term consequences of smoking. *Journal of Behavioral Decision Making, 13*(2), 259-266.

[97] Milam, J. E., Sussman, S., Ritt-Olson, A., & Dent, C. W. (2000). Perceived invulnerability and cigarette smoking among adolescents. *Addictive Behaviors, 25*(1), 71-80.

[98] Boys, A., Marsden, J., & Strang, J. (2001). Understanding reasons for drug use amongst young people: A functional perspective. *Health Education Research, 16*(4), 457-469.

[99] Johnson, H. L., & Johnson, P. B. (1997). Understanding early adolescent smoking and drinking. In B. Bain, H. Janzen, J. Paterson, L. Stewin, & A. Yu (Eds.), *Psychology and education in the 21st century: Proceedings of the International Council of Psychologists 54th Convention* (pp. 153-158). Edmonton, Alberta: IC Press.

[100] Johnson, H. L., & Johnson, P. B. (1998). Possible precursors of gender drinking differences. *Journal of Addictive Diseases, 17*(3), 1-12.

[101] Johnson, H. L., & Johnson, P. B. (1998). Possible precursors of gender drinking differences. *Journal of Addictive Diseases, 17*(3), 1-12.

[102] Gillmore, M. R., Wells, E. A., Simpson, E. E., Morrison, D. M., Hoppe, M. J., & Wilsdon, A. (1998). Children's beliefs about drinking. *American Journal of Drug and Alcohol Abuse, 24*(1), 131-151.

[103] Johnson, H. L., & Johnson, P. B. (1998). Possible precursors of gender drinking differences. *Journal of Addictive Diseases, 17*(3), 1-12.

[104] Johnson, H. L., & Johnson, P. B. (1998). Possible precursors of gender drinking differences. *Journal of Addictive Diseases, 17*(3), 1-12.

[105] Beck, K. H., Thombs, D. L., Mahoney, C. A., & Fingar, K. M. (1995). Social context and sensation-seeking: Gender differences in college student drinking motivations. *International Journal of the Addictions, 30*(9), 1101-1115.

[106] Beck, K. H., Thombs, D. L., Mahoney, C. A., & Fingar, K. M. (1995). Social context and sensation-seeking: Gender differences in college student drinking motivations. *International Journal of the Addictions, 30*(9), 1101-1115; Noel, N. E., & Lisman, S. A. (1980). Alcohol consumption by college women following exposure to unsolvable problems: Learned helplessness or stress induced drinking? *Behavior Research and Therapy, 18*(5), 429-440; Wright, L. S. (1983). Correlates of reported drinking problems among male and female college students. *Journal of Alcohol and Drug Education, 28*(3), 47-57.

[107] Boys, A., Marsden, J., & Strang, J. (2001). Understanding reasons for drug use amongst young people: A functional perspective. *Health Education Research, 16*(4), 457-469.

[108] Liu, X., & Kaplan, H. B. (1996). Gender-related differences in circumstances surrounding initiation and escalation of alcohol and other substance use/abuse. *Deviant Behavior, 17*(1), 71-106.

[109] Liu, X., & Kaplan, H. B. (1996). Gender-related differences in circumstances surrounding initiation and escalation of alcohol and other substance use/abuse. *Deviant Behavior, 17*(1), 71-106.

[110] Boys, A., Marsden, J., & Strang, J. (2001). Understanding reasons for drug use amongst young people: A functional perspective. *Health Education Research, 16*(4), 457-469; Simons, J., Correia, C. J., & Carey, K. B. (2000). A comparison of motives for marijuana and alcohol use among experienced users. *Addictive Behaviors, 25*(1), 153-160.

[111] Boys, A., Marsden, J., & Strang, J. (2001). Understanding reasons for drug use amongst young people: A functional perspective. *Health Education Research, 16*(4), 457-469.

[112] Boys, A., Marsden, J., & Strang, J. (2001). Understanding reasons for drug use amongst young people: A functional perspective. *Health Education Research, 16*(4), 457-469.

[113] Kandel, D. B. (1975). Stages in adolescent involvement in drug use. *Science, 190*(4217), 912-914.

[114] $r = .40$, $r = .39$, and $r = .35$, *respectively; all* p's $< .01$

[115] Aseltine, R., & Gore, S. L. (2000). Variable effects of stress on alcohol use from adolescence to early adulthood. *Substance Use and Misuse, 35*(5), 643-668.

Hoffmann, J. P., & Su, S. S. (1998). Stressful life events and adolescent substance use and depression: Conditional and gender differentiated effects. *Substance Use and Misuse, 33*(11), 2219-2262; Koval, J. J., Pederson, L. L., Mills, C. A., McGrady, G. A., & Carvajal, S. C. (2000). Models of the relationship of stress, depression, and other psychosocial factors to smoking behavior: A comparison of a cohort of students in grades 6 and 8. *Preventive Medicine, 30*(6), 463-477; Laurent, J., Catanzaro, S. J., & Callan, M. K. (1997). Stress, alcohol-related expectancies and coping preferences: A replication with adolescents of the Cooper et al. (1992) model. *Journal of Studies on Alcohol, 58*(6), 644-651; Mitic, W. R., McGuire, D. P., & Neumann, B. (1985). Perceived stress and adolescents cigarette use. *Psychological Reports, 57*(3, Pt. 2), 1043-1048; Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund; Simantov, E., Schoen, C., & Klein, J. D. (2000). Health-compromising behaviors: Why do adolescents smoke or drink? Identifying underlying risk and protective factors. *Archives of Pediatrics and Adolescent Medicine, 154*(10), 1025-1033; Siqueira, L., Diab, M., Bodian, C., & Rolnitzky, L. (2000). Adolescents becoming smokers: The roles of stress and coping methods. *Journal of Adolescent Health, 27*(6), 399-408; Wills, T. A. (1986). Stress and coping in early adolescence: Relationships to substance use in urban school samples. *Health Psychology, 5*(6), 503-529; Wills, T. A., Vacarro, D., & McNamara, G. (1992). The role of life events, family support, and competence in adolescent substance use: A test of vulnerability and protective factors. *American Journal of Community Psychology, 20*(3), 349-374; Windle, M., & Windle, R. C. (1996). Coping strategies, drinking motives, and stressful life events among middle adolescents: Associations with emotional and behavioral problems and with academic functioning. *Journal of Abnormal Psychology, 105*(4), 551-560.

[116] Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[117] Hoffmann, J. P., & Su, S. S. (1998). Stressful life events and adolescent substance use and depression: Conditional and gender differentiated effects. *Substance Use and Misuse, 33*(11), 2219-2262.

[118] Byrne, D. G., Byrne, A. E., & Reinhart, M. I. (1995). Personality, stress and the decision to commence cigarette smoking in adolescence. *Journal of Psychosomatic Research, 39*(1), 53-62.

[119] Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[120] Aneshensel, C. S., Rutter, C. M., & Lachenbruch, P. A. (1991). Social structure, stress, and mental health: Competing conceptual and analytic models. *American Sociological Review, 56*(2), 166-178.

[121] Aneshensel, C. S., Rutter, C. M., & Lachenbruch, P. A. (1991). Social structure, stress, and mental health: Competing conceptual and analytic models. *American Sociological Review, 56*(2), 166-178.

[122] Hoffmann, J. P., & Su, S. S. (1998). Stressful life events and adolescent substance use and depression: Conditional and gender differentiated effects. *Substance Use and Misuse, 33*(11), 2219-2262.

[123] Whalen, C. K., Jamner, L. D., Henker, B., & Delfino, R. J. (2001). Smoking and moods in adolescents with depressive and aggressive dispositions: Evidence from surveys and electronic diaries. *Health Psychology, 20*(2), 99-111.

[124] Whalen, C. K., Jamner, L. D., Henker, B., & Delfino, R. J. (2001). Smoking and moods in adolescents with depressive and aggressive dispositions: Evidence from surveys and electronic diaries. *Health Psychology, 20*(2), 99-111.

[125] Guthrie, B. J., Young, A. M., Boyd, C. J., & Kintner, E. K. (2001). Dealing with daily hassles: Smoking and African-American adolescent girls. *Journal of Adolescent Health, 29*(2), 109-115.

[126] Guthrie, B. J., Young, A. M., Boyd, C. J., & Kintner, E. K. (2001). Dealing with daily hassles: Smoking and African-American adolescent girls. *Journal of Adolescent Health, 29*(2), 109-115.

[127] Guthrie, B. J., Young, A. M., Williams, D. R., Boyd, C. J., & Kintner, E. K. (2002). African American girls' smoking habits and day-to-day experiences with racial discrimination. *Nursing Research, 51*(3), 183-190.

[128] Guthrie, B. J., Young, A. M., Williams, D. R., Boyd, C. J., & Kintner, E. K. (2002). African American girls' smoking habits and day-to-day experiences with racial discrimination. *Nursing Research, 51*(3), 183-190.

[129] Luthar, S. S., & Becker, B. E. (2002). Privileged but pressured? A study of affluent youth. *Child Development, 73*(5), 1593-1610.

[130] Adger, H. (1992). Alcohol and other drug use and abuse in adolescents. In D. E. Rogers, & E. Ginzburg (Eds.), *Adolescents at risk: Medical and social perspectives* (pp. 80-94). Boulder, CO: Westview Press; Neher, L. S., & Short, J. L. (1998). Risk and protective factors for children's substance use and antisocial behavior following parental divorce. *American Journal of Orthopsychiatry, 68*(1), 154-161.

[131] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Longitudinal Study of Adolescent Health (Add Health), 1996* [Data file]. Chapel Hill, NC: University of North Carolina at Chapel Hill, Carolina Population Center.

[132] Bennett, E. M., & Kemper, K. J. (1994). Is abuse during childhood a risk factor for developing substance abuse problems as an adult? *Developmental and Behavioral Pediatrics, 15*(6), 426-429; Galaif, E. R., Stein, J. A., Newcomb, M. D., & Bernstein, D. P. (2001). Gender differences in the prediction of problem alcohol use in adulthood: Exploring the influence of family factors and childhood maltreatment. *Journal of Studies on Alcohol, 62*(4), 486-493; Jarvis, T. J., Copeland, J., & Walton, L. (1998). Exploring the nature of the relationship between child sexual abuse and substance use among women. *Addiction, 93*(6), 865-875; Kilpatrick, D. G., Acierno, R., Saunders, B., Resnick, H. S., Best, C. L., & Schnurr, P. P. (2000). Risk factors for adolescent substance abuse and dependence: Data from a national sample. *Journal of Consulting and Clinical Psychology, 68(1),* 19-30; Rounds-Bryant, J. L., Kristiansen, P. L., Fairbank, J. A., & Hubbard, R. L. (1998). Substance use, mental disorders, abuse, and crime: Gender comparisons among a national sample of adolescent drug treatment clients. *Journal of Child and Adolescent Substance Abuse, 7*(4), 19-34; Simantov, E., Schoen, C., & Klein, J. D. (2000). Health-compromising behaviors: Why do adolescents smoke or drink? Identifying underlying risk and protective factors. *Archives of Pediatrics and Adolescent Medicine, 154*(10), 1025-1033; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997). *Substance abuse and the American woman.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; Wilsnack, S. C., Vogeltanz, N. D., Klassen, A. D., & Harris, T. R. (1997). Childhood sexual abuse and women's substance abuse: National survey findings. *Journal of Studies on Alcohol, 58*(3), 264-271; Wilsnack, R. W., Wilsnack, S. C., Kristjanson, A. F., & Harris, T. B. (1998). Ten-year prediction of women's drinking behavior in a nationally representative sample. *Women's Health, 4*(3), 199-230.

[133] Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[134] Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

[135] Widom, C. S., Weiler, B. L., & Cottler, L. B. (1999). Childhood victimization and drug abuse: A comparison of prospective and retrospective findings. *Journal of Consulting and Clinical Psychology, 67*(6), 867-880.

[136] Felitti, V. J. (2002). The relation between adverse childhood experience and adult health: Turning gold into lead. *Permanente Journal, 6*(1), 44-47; Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245-258.

[137] Jarvis, T. J., Copeland, J., & Walton, L. (1998). Exploring the nature of the relationship between child sexual abuse and substance abuse among women. *Addiction, 93(6),* 865-875; Paone, D., Chavkin, W., Willets, I., Friedmann, P., & DesJarlais, D. (1992). The impact of sexual abuse: Implications for drug treatment. *Journal of Women's Health, 1*(2), 149-153.

[138] Miller, B. A., Downs, W. R., & Testa, M. (1993). Interrelationships between victimization experiences and women's alcohol use. *Journal of Studies on Alcohol, Suppl. 11*, 109-117; Whitbeck, L. B. (1999). Primary socialization theory: It all begins with the family. *Substance Use and Misuse, 34*(7), 1025-1032.

[139] Anda, R. F., Croft, J. B., Felitti, V. J., Nordenberg, D., Giles, W. H., Williamson, D. F., et al. (1999). Adverse childhood experiences and smoking during adolescence and adulthood. *JAMA, 282*(17), 1652-1658; Flanigan, B. J., Potrykus, P. A., & Marti, D. (1988). Alcohol and marijuana use among female adolescent incest victims. *Alcoholism Treatment Quarterly, 5*(1-2), 231-248; Harrison, P. A., Hoffman, N. G., & Edwall, G. E. (1989). Differential drug use patterns among sexually abused adolescent girls in treatment for chemical dependency. *International Journal of Addictions, 24*(6), 499-514; Pedersen, W., & Skrondal, A. (1996). Alcohol and sexual victimization: A longitudinal study of Norwegian girls. *Addiction, 91*(4), 565-581; Singer, M. I., Petchers, M. K., & Hussey, D. (1989). The relationship between sexual abuse and substance abuse among psychiatrically hospitalized adolescents. *Child Abuse and Neglect, 13*(3), 319-325.

[140] Rounds-Bryant, J. L., Kristiansen, P. L., Fairbank, J. A., & Hubbard, R. L. (1998). Substance use, mental disorders, abuse, and crime: Gender comparisons among a national sample of adolescent drug treatment clients. *Journal of Child and Adolescent Substance Abuse, 7*(4), 19-34.

[141] Harrison, P. A., Hoffman, N. G., & Edwall, G. E. (1989). Differential drug use patterns among sexually abused adolescent girls in treatment for chemical dependency. *International Journal of Addictions, 24*(6), 499-514.

[142] Harrison, P. A., Hoffman, N. G., & Edwall, G. E. (1989). Differential drug use patterns among sexually abused adolescent girls in treatment for chemical dependency. *International Journal of Addictions, 24*(6), 499-514.

[143] Rounds-Bryant, J. L., Kristiansen, P. L., Fairbank, J. A., & Hubbard, R. L. (1998). Substance use, mental disorders, abuse, and crime: Gender comparisons among a national sample of adolescent drug treatment clients. *Journal of Child and Adolescent Substance Abuse, 7*(4), 19-34.

[144] Rounds-Bryant, J. L., Kristiansen, P. L., Fairbank, J. A., & Hubbard, R. L. (1998). Substance use, mental disorders, abuse, and crime: Gender comparisons among a national sample of adolescent drug treatment clients. *Journal of Child and Adolescent Substance Abuse, 7*(4), 19-34.

[145] Garnefski, N., & Arends, E. (1998). Sexual abuse and adolescent maladjustment: Differences between male and female victims. *Journal of Adolescence, 21*(1), 99-107.

[146] Galaif, E. R., Stein, J. A., Newcomb, M. D., & Bernstein, D. P. (2001). Gender differences in the prediction of problem alcohol use in adulthood: Exploring the influence of family factors and childhood maltreatment. *Journal of Studies on Alcohol, 62*(4), 486-493; Jasinski, J. L., Williams, L. M., & Siegel, J. (2000). Childhood physical and sexual abuse as risk factors for heavy drinking among African-American women: A prospective study. *Child Abuse and Neglect, 24*(8), 1061-1071; Widom, C. S., Weiler, B. L., & Cottler, L. B. (1999). Childhood victimization and drug abuse: A comparison of prospective and retrospective findings. *Journal of Consulting and Clinical Psychology, 67*(6), 867-880; Wilsnack, S. C., Vogeltanz, N. D., Klassen, A. D., & Harris, T. R. (1997). Childhood sexual abuse and women's substance abuse: National survey findings. *Journal of Studies on Alcohol, 58*(3), 264-271.

[147] Wilsnack, R. W., Wilsnack, S. C., Kristjanson, A. F., & Harris, T. B. (1998). Ten-year prediction of women's drinking behavior in a nationally representative sample. *Women's Health, 4*(3), 199-230.

[148] Miller, B. A., Downs, W. R.,& Testa, M. (1993). Interrelationships between victimization experiences and women's alcohol use. *Journal of Studies on Alcohol, Suppl. 11*, 109-117.

[149] Wilsnack, S. C., Vogeltanz, N. D., Klassen, A. D., & Harris, T. R. (1997). Childhood sexual abuse and women's substance abuse: National survey findings. *Journal of Studies on Alcohol, 58*(3), 264-271.

[150] Jarvis, T. J., Copeland, J., & Walton, L. (1998). Exploring the nature of the relationship between child sexual abuse and substance abuse among women. *Addiction, 93(6),* 865-875.

[151] Wilsnack, S. C., Vogeltanz, N. D., Klassen, A. D., & Harris, T. R. (1997). Child sexual abuse and women's substance abuse: National survey findings. *Journal of Studies on Alcohol, 58*(3), 264-271.

[152] Miller, B. A., Downs, W. R.,& Testa, M. (1993). Interrelationships between victimization experiences and women's alcohol use. *Journal of Studies on Alcohol, Suppl. 11*, 109-117.

[153] Berenson, A. B., Wiemann, C. M., & McCombs, S. (2001). Exposure to violence and associated health-risk behaviors among adolescent girls. *Archives of Pediatrics and Adolescent Medicine, 155*(11), 1238-1242; Kilpatrick, D. G., Acierno, R., Saunders, B., Resnick, H. S., Best, C. L., & Schnurr, P. P. (2000). Risk factors for adolescent substance abuse and dependence: Data from a national sample. *Journal of Consulting and Clinical Psychology, 68(1),* 19-30.

[154] Berenson, A. B., Wiemann, C. M., & McCombs, S. (2001). Exposure to violence and associated health-risk behaviors among adolescent girls. *Archives of Pediatrics and Adolescent Medicine, 155*(11), 1238-1242.

[155] Berenson, A. B., Wiemann, C. M., & McCombs, S. (2001). Exposure to violence and associated health-risk behaviors among adolescent girls. *Archives of Pediatrics and Adolescent Medicine, 155*(11), 1238-1242.

[156] Berenson, A. B., Wiemann, C. M., & McCombs, S. (2001). Exposure to violence and associated health-risk behaviors among adolescent girls. *Archives of Pediatrics and Adolescent Medicine, 155*(11), 1238-1242.

Chapter VI
Notes

[1] Brook, J. S., Brook, D. W., Gordon, A. S., Whiteman, M., & Cohen, P. (1990). The psychosocial etiology of adolescent drug use: A family interactional approach. *Genetic, Social, and General Psychology Monographs, 116*(2), 111-267; Johnson, P. B. & Johnson, H. L. (2000). Reaffirming the power of parental influence on adolescent smoking and drinking decisions. *Adolescent and Family Health, 1*(1), 37-43; Richter, L. & Richter, D. M. (2001). Exposure to parental tobacco and alcohol use: Effects on children's health and development. *American Journal of Orthopsychiatry, 71*(2), 182-203; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *The national survey of American attitudes on substance abuse VI: Teens.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; Vakalahi, H. F. (2001). Adolescent substance use and family-based risk and protective factors: A literature review. *Journal of Drug Education, 31*(1), 29-46.

[2] Block, J., Block, J. H., & Keyes, S. (1988). Longitudinally foretelling drug usage in adolescence: Early childhood personality and environmental precursors. *Child Development, 59*(2), 336-355; Kandel, D. B. (1985). On processes of peer influences in adolescent drug use: A developmental perspective. *Advances in Alcohol and Substance Abuse, 4*(3-4), 139-163.

[3] Adlaf, E. M., & Smart, R. G. (1985). Drug use and religious affiliation, feelings and behavior. *British Journal of Addiction, 80*(2), 163-171; Brown, T. L., Parks, G. S., Zimmerman, R. S., & Phillips, C. M. (2001). The role of religion in predicting adolescent alcohol use and problem drinking. *Journal of Studies on Alcohol, 62*(5), 696-705; DeFronzo, J., & Pawlak, R. (1994). Gender differences in determinants of smoking. *Journal of Drug Issues, 24*(3), 507-516; Strawbridge, W. J., Shema, S. J., Cohen, R. D., & Kaplan, G. A. (2001). Religious attendance increases survival by improving and maintaining good health behaviors, mental health, and social relationships. *Annals of Behavioral Medicine, 23*(1), 68-74.

[4] Brook, J. S., Balka, E. B., Brook, D. W., Win, P. T., & Gursen, M. D. (1998). Drug use among African Americans: Ethnic identity as a protective factor. *Psychological Reports, 83*(3), 1427-1446; Brook, J. S., Whiteman, M., Balka, E. B., Win, P. T., & Gursen, M. D. (1998). Drug use among Puerto Ricans: Ethnic identity as a protective factor. *Hispanic Journal of Behavioral Sciences, 20(2)*, 241-254; Wallace, J. M. (1999). The social ecology of addiction: Race, risk, and resilience. *Pediatrics, 103*(5), 1122-1127.

[5] Brook, J. S., Whiteman, M., Balka, E. B., Win, P. T., & Gursen, M. D. (1998). Drug use among Puerto Ricans: Ethnic identity as a protective factor. *Hispanic Journal of Behavioral Sciences, 20(2)*, 241-254; Wallace, J. M. (1999). The social ecology of addiction: Race, risk, and resilience. *Pediatrics, 103*(5), 1122-1127.

[6] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[7] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[8] Office of Applied Studies. (2001). *Availability of illicit drugs to females aged 12 to 17.* [On-line]. Retrieved November 30, 2001 from the World Wide Web: http://www.drugabusestatistics.samhsa.gov/.

[9] Office of Applied Studies. (2001). *Availability of illicit drugs to females aged 12 to 17.* [On-line]. Retrieved November 30, 2001 from the World Wide Web: http://www.drugabusestatistics.samhsa.gov/.

[10] Anderson, A. R., & Henry, C. S. (1994). Family system characteristics and parental behaviors as predictors of adolescent substance use. *Adolescence, 29*(114), 405-420; Benard, B. (1991). *Fostering resiliency in kids: Protective factors in family, school, and community.* Portland, OR: Northwest Regional Educational Laboratory; Barnes, G. M., & Farrell, M. P. (1992). Parental support and control as predictors of adolescent drinking, delinquency, and related problem behaviors. *Journal of Marriage and the Family, 54*(4), 763-776; Brook, J. S., Richter, L., & Whiteman, M. (in press). Risk and protective factors of adolescent drug use: Implications for prevention programs. In W. J. Bukoski & Z. Sloboda (Eds.), *Handbook for drug abuse prevention theory, science, and practice.* New York: Plenum Press; Fletcher, A. C., & Jefferies, B. C. (1999). Parental mediators of associations between perceived authoritative parenting and early adolescent substance use. *Journal of Early Adolescence, 19*(4), 465-487; Galaif, E. R., Stein, J. A., Newcomb, M. D., & Bernstein, D. P. (2001). Gender differences in the prediction of problem alcohol use in adulthood: Exploring the influence of family factors and childhood maltreatment. *Journal of Studies*

on Alcohol, 62(4), 486-493; Kaufman, N. J., Castrucci, B. C., Mowery, P. D., Gerlach, K. K., Emont, S., & Orleans, C. T. (2002). Predictors of change on the smoking uptake continuum among adolescents. *Archives of Pediatrics and Adolescent Medicine, 156*(6), 581-587; Richter, L., & Richter, D. M. (2001). Exposure to parental tobacco and alcohol use: Effects on children's health and development. *American Journal of Orthopsychiatry, 71*(2), 182-203; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Back to school 1999: National survey of American attitudes on substance abuse V: Teens and their parents.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *The national survey of American attitudes on substance abuse VI: Teens.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies; Wills, T. A., Vacarro, D., & McNamara, G. (1992). Role of life events, family support, and competence in adolescent substance use: A test of vulnerability and protective factors. *American Journal of Community Psychology, 20*(3), 349-374.

[11] Dakof, G. A. (2000). Understanding gender differences in adolescent drug abuse: Issues of comorbidity and family functioning. *Journal of Psychoactive Drugs, 32(1)*, 25-32; Ripple, C. H., & Luthar, S. S. (1996). Familial factors in illicit drug abuse: An interdisciplinary perspective. *American Journal of Drug and Alcohol Abuse, 22*(2), 147-172; Santisteban, D. A., Tejeda, M., Dominicis, C., & Szapocznik, J. (1999). An efficient tool for screening for maladaptive family functioning in adolescent drug abusers: The Problem Oriented Screening Instrument for Teenagers. *American Journal of Drug and Alcohol Abuse, 25*(2), 197-206.

[12] Coates, D. L. (1987). Gender differences in the structure and support characteristics of black adolescents' social networks. *Sex Roles, 17*(11-12), 667-687.

[13] Gore, S., Aseltine, R. H., & Colten, M. E. (1993). *Gender, social-relational involvement, and depression. Journal of Research on Adolescence, 3*(2), 101-125.

[14] Biederman, J., Faraone, S. V., Monuteaux, M. C., & Feighner, J. A. (2000). Patterns of alcohol and drug use in adolescents can be predicted by parental substance use disorders. *Pediatrics, 106*(4), 792-797; Richter, L., & Richter, D. M. (2001). Exposure to parental tobacco and alcohol use: Effects on children's health and development. *American Journal of Orthopsychiatry, 71*(2), 182-203.

[15] Andrews, J. A., Hops, H., Ary, D., Tildesley, E., & Harris, J. (1993). Parental influence on early adolescent substance use: Specific and nonspecific effects. *Journal of Early Adolescence, 13*(3), 285- 310; Cooper, M. L., Peirce, R. S., & Tidwell, M. O. (1995). Parental drinking problems and adolescent offspring substance use: Moderating effects of demographic and familial factors. *Psychology of Addictive Behaviors, 9*(1), 36-52; Crum, R. M., & Harris, E. L. (1996). Risk of alcoholism and parental history: Gender differences and a possible reporting bias. *Genetic Epidemiology, 13*(4), 329-341; Curran, G. M., Stoltenberg, S. F., Hill, E. M., Mudd, S. A., Blow, F. C., & Zucker, R. A. (1999). Gender differences in the relationships among SES, family history of alcohol disorders and alcohol dependence. *Journal of Studies on Alcohol, 60*(6), 825-832; Fisher, D. G., MacKinnon, D. P., Anglin, M. D., & Thompson, J. P. (1987). Parental influences on substance use: Gender differences and stage theory. *Journal of Drug Education, 17*(1), 69-86; Su, S. S., Hoffman, J. P., Gerstein, D. R., & Johnson, R. A. (1997). The effect of home environment on adolescent substance use and depressive symptoms. *Journal of Drug Issues, 27*(4), 851-877.

[16] Curran, G. M., Stoltenberg, S. F., Hill, E. M., Mudd, S. A., Blow, F. C., & Zucker, R. A. (1999). Gender differences in the relationships among SES, family history of alcohol disorders and alcohol dependence. *Journal of Studies on Alcohol, 60*(6), 825-832.

[17] Crum, R. M., & Harris, E. L. (1996). Risk of alcoholism and parental history: Gender differences and a possible reporting bias. *Genetic Epidemiology, 13*(4), 329-341.

[18] Pollock, V. E., Schneider, L. S., Gabrielli, W. F., & Goodwin, D. W. (1987). Sex of parent and offspring in the transmission of alcoholism. A meta-analysis. *Journal of Nervous and Mental Disease, 175*(11), 668-673.

[19] Wickrama, K. A., Conger, R. D., Wallace, L. E., & Elder, G. H. (1999). The intergenerational transmission of health-risk behaviors: Adolescent lifestyles and gender moderating effects. *Journal of Health and Social Behavior, 40*(3), 258-272.

[20] Ary, D. V., Duncan, T. E., Duncan, S. C., & Hops, H. (1999). Adolescent problem behavior: The influence of parents and peers. *Behaviour Research and Therapy, 37*(3), 217-230; Barnes, G. M., & Farrell, M. P. (1992). Parental support and control as predictors of adolescent drinking, delinquency, and related problem behaviors. *Journal of Marriage and the Family, 54*(4), 763-776; Cohen, D. A., Richardson, J., & LaBree, L. (1994). Parenting behaviors and the onset of smoking and alcohol use: A longitudinal study. *Pediatrics, 94*(3), 368-375; Jackson, C.,

Henriksen, L., & Dickinson, D. (1999). Alcohol-specific socialization, parenting behaviors and alcohol use by children. *Journal of Alcohol Studies, 60*(3), 362-367; Kafka, R. R., & London, P. (1991). Communication in relationships and adolescent substance use: The influence of parents and friends. *Adolescence, 26*(103), 587-598; Selnow, G. W. (1987). Parent-child relationships and single and two parent families: Implications for substance usage. *Journal of Drug Education, 17*(4), 315-326; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Back to School 1999: National survey of American attitudes on substance abuse V: Teens and their parents*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; Wills, T. A., Vaccaro, D., & McNamara, G. (1992). The role of life events, family support, and competence in adolescent substance use: A test of vulnerability and protective factors. *American Journal of Community Psychology, 20*(3), 349-374; Zucker, R. A., & Fitzgerald, H. E. (1991). Early developmental factors and risk for alcohol problems. *Alcohol Health and Research World, 15*(1), 18-24.

[21] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[22] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[23] Bahr, S. J., Marcos, A. C., & Maughan, S. L. (1995). Family, educational and peer influences on the alcohol use of female and male adolescents. *Journal of Studies on Alcohol, 56*(4), 457-469.

[24] Bahr, S. J., Marcos, A. C., & Maughan, S. L. (1995). Family, educational and peer influences on the alcohol use of female and male adolescents. *Journal of Studies on Alcohol, 56*(4), 457-469.

[25] Catalano, R. F., Morrison, D. M., Wells, E. A., Gillmore, M.R., Iritani, B., & Hawkins, J. D. (1992). Ethnic differences in family factors related to early drug initiation. *Journal of Studies on Alcohol, 53*(3), 208-217.

[26] Noller, P. (1995). Parent-adolescent relationships. In M. A. Fitzpatrick, & A. L. Vangelisti (Eds.), *Explaining family interactions* (pp. 77-111). Thousand Oaks, CA: Sage.

[27] Kafka, R. R., & London, P. (1991). Communication in relationships and adolescent substance use: The influence of parents and friends. *Adolescence, 26*(103), 587-598; McArdle, P., Wiegersma, A., Gilvarry, E., Kolte, B., McCarthy, S., Fitzgerald, M., et al. (2002). European adolescent substance use: The roles of family structure, function and gender. *Addiction, 97*(3), 329-336.

[28] Noller, P. (1995). Parent-adolescent relationships. In M. A. Fitzpatrick, & A. L. Vangelisti (Eds.), *Explaining family interactions* (pp. 77-111). Thousand Oaks, CA: Sage.

[29] Poole, M. E., & Gelder, A. J. (1984). Family cohesiveness and adolescent autonomy in adolescent decision-making. *Australian Journal of Sex, Marriage, and the Family, 5*(2), 65-75.

[30] Furman, W. & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*(1), 103-115.

[31] Turner, A. P., Larimer, M. E., & Sarason, I. G. (2000). Family risk factors for alcohol-related consequences and poor adjustment in fraternity and sorority members: Exploring the role of parent-child conflict. *Journal of Studies on Alcohol, 61*(6), 818-826.

[32] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Back to School 1999: National survey of American attitudes on substance abuse V: Teens and their parents*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[33] Adlaf, E. M., & Ivis, F. J. (1996). Structure and relations: The influence of familial factors on adolescent substance use and delinquency. *Journal of Child and Adolescent Substance Abuse, 5(3)*, 1-19; Gerrard, M., Gibbons, F. X., Zhao, L., Russell, D. W., & Reis-Bergan, M. (1999). The effect of peers' alcohol consumption on parental influence: A cognitive mediational model. *Journal of Studies on Alcohol, Suppl. 13*, 32-44.

[34] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[35] $X^2 = 134.94, p < .001$

[36] $X^2 = 160.25, p < .001$

[37] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Back to school 1999: National survey of American attitudes on substance abuse V: Teens and their parents.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[38] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Back to school 1999: National survey of American attitudes on substance abuse V: Teens and their parents.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[39] Partnership for a Drug-Free America. (2000). *Partnership Attitude Tracking Study 1999: Parents.* [On-line]. Retrieved April 15, 2002 from the World Wide Web: http://www.drugfreeamerica.org.

[40] Partnership for a Drug-Free America. (2000). *Partnership Attitude Tracking Study 1999: Parents.* [On-line]. Retrieved April 15, 2002 from the World Wide Web: http://www.drugfreeamerica.org.

[41] Partnership for a Drug-Free America. (2000). *Partnership Attitude Tracking Study 1999: Parents.* [On-line]. Retrieved April 15, 2002 from the World Wide Web: http://www.drugfreeamerica.org.

[42] Ennett, S. T., Bauman, K. E., Foshee, V. A., Pemberton, M., & Hicks, K. A. (2001). Parent-child communication about adolescent tobacco and alcohol use: What do parents say and does it affect youth behavior? *Journal of Marriage and the Family, 63*(1), 48-62.

[43] Andrews, J. A., Hops, H., Ary, D., Tildesley, E., & Harris, J. (1993). Parental influence on early adolescent substance use: Specific and nonspecific effects. *Journal of Early Adolescence, 13(3),* 285- 310; Biederman, J., Faraone, S. V., Monuteaux, M. C., & Feighner, J. A. (2000). Patterns of alcohol and drug use in adolescents can be predicted by parental substance use disorders. *Pediatrics, 106*(4), 792-797; Jackson, C., Henricksen, L., & Dickinson, D. (1999). Alcohol-specific socialization , parenting behaviors, and alcohol use by children. *Journal of Studies on Alcohol, 60*(3), 362-367; Jessor, R.R., & Jessor, S.L. (1977). *Problem behavior and psychological development.* New York: Academic Press; Kandel, D. B., & Andrews, K. (1987). Processes of adolescent socialization by parents and peers. *International Journal of the Addictions, 22*(4), 319-342; Kosterman, R., Hawkins, J. D., Guo, J., Catalano, R. F., & Abbott, R. D. (2000). The dynamics of alcohol and marijuana initiation: Patterns and predictors of first use in adolescence. *American Journal of Public Health, 90*(3), 360-366; Peterson, P. L., Hawkins, J. D., Abbott, R. D., & Catalano, R. F. (1994). Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by black and white adolescents. *Journal of Research on Adolescence*, *4*(2), 203-227.

[44] Ennett, S. T., Bauman, K. E., Foshee, V. A., Pemberton, M., & Hicks, K. A. (2001). Parent-child communication about adolescent tobacco and alcohol use: What do parents say and does it affect youth behavior? *Journal of Marriage and the Family, 63*(1), 48-62.

[45] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997). *Back to school 1997: National survey of American attitudes on substance abuse III: Teens and their parents, teachers and principals.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[46] Jackson, C., Henricksen, L., & Dickinson, D. (1999). Alcohol-specific socialization, parenting behaviors, and alcohol use by children. *Journal of Studies on Alcohol, 60*(3), 362-367.

[47] Leinwand, D. (2000, August 24). 20% say they used drugs with their mom or dad among reasons: Boomer culture and misguided attempts to bond. *USA Today,* p. A1; Phoenix House. (2000). *Phoenix House survey of treatment residents.* Unpublished manuscript.

[48] Lopez, R. I. (2002). *The teen health book: A parents' guide to adolescent health and well-being.* New York: W. W. Norton.

[49] Siddiqui, O., Mott, J., Anderson, T., & Flay, B. (1999). The application of Poisson random-effects regression models to the analyses of adolescents' current level of smoking. *Preventive Medicine, 29*(2), 92-101.

[50] Jackson, C., Henricksen, L., & Dickinson, D. (1999). Alcohol-specific socialization , parenting behaviors, and alcohol use by children. *Journal of Studies on Alcohol, 60*(3), 362-367.

[51] Brody, G. H., Flor, D. L., Hollett-Wright, N., McCoy, J. K., & Donovan, J. (1999). Parent-child relationships, child temperament profiles and children's alcohol use norms. *Journal of Studies on Alcohol, Suppl. 13*, 45-51; McMaster, L. E., & Wintre, M. G. (1996). The relations between perceived parental reciprocity, perceived parental approval, and adolescent substance use. *Journal of Adolescent Research, 11(4)*, 440-460.

[52] Office of Applied Studies. (2001). *Detailed tables for 2000 National Household Survey on Drug Abuse: Risk and Protective Factor Tables: 3.1 to 3.48.* [On-line]. Retrieved October 28, 2002 from the World Wide Web: http://www.samhsa.gov/oas.

[53] Adlaf, E. M., & Ivis, F. J. (1996). Structure and relations: The influence of familial factors on adolescent substance use and delinquency. *Journal of Child and Adolescent Substance Abuse, 5*(3), 1-19; Barnes, G. M., & Farrell, M. P. (1992). Parental support and control as predictors of adolescent drinking, delinquency, and related

problem behaviors. *Journal of Marriage and the Family, 54*(4), 763-776; Barnes, G. M., Farrell, M. P., & Banerjee, S. (1994). Family influences on alcohol abuse and other problem behaviors among black and white adolescents in a general population sample. *Journal of Research on Adolescence, 4*(2), 183-201; Beck, K. H., & Lockhart, S. J. (1992). A model of parental involvement in adolescent drinking and driving. *Journal of Youth and Adolescence, 21*(1), 35-51; Bogenschneider, K., Wu, M., Raffaelli, M., & Tsay, J. C. (1998). Parent influences on adolescent peer orientation and substance use: The interface of parenting practices and values. *Child Development, 69(6)*, 1672-1688; Chilcoat, H. D., Dishion, T. J., & Anthony, J. C. (1995). Parent monitoring and the incidence of drug sampling in urban elementary school children. *American Journal of Epidemiology, 141*(1), 25-31; Griffin, K. W., Botvin, G. J., Scheier, L. M., Diaz, T., & Miller, N. L. (2000). Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: Monitoring effects of family structure and gender. *Psychology of Addictive Behaviors, 14(2)*, 174-184; Jackson, C., Henriksen, L., & Dickinson, D. (1999). Alcohol-specific socialization, parenting behaviors and alcohol use by children. *Journal of Alcohol Studies, 60*(3), 362-367; Li, X., Feigelman, S., & Stanton, B. (2000). Perceived parental monitoring and health risk behaviors among urban low-income African-American children and adolescents. *Journal of Adolescent Health, 27*(1), 43-48; Reifman, A., Barnes, G. M., Dintcheff, B. A., Farrell, M. P., & Uhteg, L. (1998). Parental and peer influences on the onset of heavier drinking among adolescents. *Journal of Studies on Alcohol, 59*(3), 311-317; Rodgers-Farmer, A. Y. (2000). Parental monitoring and peer group association: Their influence on adolescent substance use. *Journal of Social Service Research, 27*(2), 1-18; Simons-Morton, B., Haynie, D. L, Crump, A. D., Eitel, P., Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107; Steinberg, L., Fletcher, A., & Darling, N. (1994). Parental monitoring and peer influences on adolescent substance use. *Pediatrics, 93*(6, Pt. 2), 1060-1064; Vakalahi, H. F., Harrison, R. S., & Janzen, F. V. (2000). The influence of family-based risk and protective factors on adolescent substance use. *Journal of Family Social Work, 4*(1), 21-34.

[54] Catalano, R. F., Morrison, D. M., Wells, E. A., Gillmore, M. R., Iritani, B., & Hawkins, J. D. (1992). Ethnic differences in family factors related to early drug initiation. *Journal of Studies on Alcohol, 53*(3), 208-217.

[55] Catalano, R. F., Morrison, D. M., Wells, E. A., Gillmore, M. R., Iritani, B., & Hawkins, J. D. (1992). Ethnic differences in family factors related to early drug initiation. *Journal of Studies on Alcohol, 53*(3), 208-217.

[56] Fletcher, A. C., & Jefferies, B. C. (1999). Parental mediators of associations between perceived parental authoritative parenting and early adolescent substance use. *Journal of Early Adolescence, 19(4)*, 465-487.

[57] Griffin, K. W., Botvin, G. J., Scheier, L. M., Diaz, T., & Miller, N. L. (2000). Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: Monitoring effects of family structure and gender. *Psychology of Addictive Behaviors, 14(2)*, 174-184.

[58] Griffin, K. W., Botvin, G. J., Scheier, L. M., Diaz, T., & Miller, N. L. (2000). Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: Monitoring effects of family structure and gender. *Psychology of Addictive Behaviors, 14(2)*, 174-184.

[59] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1996). *The 1996 National survey of American attitudes on substance abuse II: Teens and their parents.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997). *1997 CASA national survey of teens, their parents, teachers and principals.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Back to school 1999--National survey of American attitudes on substance abuse V: Teens and their parents.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *The national survey of American attitudes on substance abuse VI: Teens.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *National survey of American attitudes on substance abuse VII: Teens, parents and siblings.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[60] Crouter, A. C., MacDermid, S. M., McHale, S. M., & Perry-Jenkins, M. (1990). Parental monitoring and perceptions of children's school performance and conduct in dual- and single-earner families. *Developmental Psychology, 26(4)*, 649-657; Griffin, K. W., Botvin, G. J., Scheier, L. M., Diaz, T., & Miller, N. L. (2000). Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: Monitoring effects of family structure and gender. *Psychology of Addictive Behaviors, 14(2)*, 174-184.

[61] Li, X., Feigelman, S., & Stanton, B. (2000). Perceived parental monitoring and health risk behaviors among urban low-income African-American children and adolescents. *Journal of Adolescent Health, 27*(1), 43-48.

[62] Friedman, A. S., Granick, S., Bransfield, S., Kreisher, C., & Khalsa, J. (1995). Gender differences in early life risk factors for substance use/abuse: A study of an African-American sample. *American Journal of Drug and Alcohol Abuse, 21*(4), 511-531.

[63] Allison, P. D., & Furstenberg, F. F. (1989). How marital dissolution affects children: Variations by age and sex. *Developmental Psychology, 25(4)*, 540-549.

[64] Brook, J. S., Whiteman, M., Gordon, A. S., & Brenden, C. (1983). Older brother's influence on younger sibling's drug use. *Journal of Psychology, 114*(1), 83-90; Conger, R. D., & Rueter, M.A. (1996). Siblings, parents, and peers: A longitudinal study of social influences in adolescent risk for alcohol use and abuse. In G. H. Brody (Ed.), *Sibling relationships: Their causes and consequences* (pp.1-30). Norwood, NJ: Ablex; Gfroerer, J. (1987). Correlation between drug use by teenagers and drug use by older family members. *American Journal of Drug and Alcohol Abuse, 13*(1-2), 95-108; Needle, R., McCubbin, H., Wilson, M., Reineck, R., Lazar, A., & Mederer, H. (1986). Interpersonal influences in adolescent drug use: The role of older siblings, parents and peers. *International Journal of the Addictions, 21*(7), 739-766.

[65] Needle, R., McCubbin, H., Wilson, M., Reineck, R., Lazar, A., & Mederer, H. (1986). Interpersonal influences in adolescent drug use: The role of older siblings, parents and peers. *International Journal of the Addictions, 21*(7), 739-766; Vakalahi, H. F., Harrison, R. S., & Janzen, F. V. (2000). The influence of family-based risk and protective factors on adolescent substance use. *Journal of Family Social Work, 4*(1), 21-34.

[66] Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*(1), 103-115.

[67] Blyth, D. A., & Foster-Clark, F. S. (1987). Gender differences in perceived intimacy with different members of adolescents' social networks. *Sex Roles, 17*(11-12), 689-718.

[68] Needle, R., McCubbin, H., Wilson, M., Reineck, R., Lazar, A., & Mederer, H. (1986). Interpersonal influences in adolescent drug use: The role of older siblings, parents and peers. *International Journal of the Addictions, 21*(7), 739-766.

[69] Wang, M. Q., Fitzhugh, E. C., Westerfield, R. C., & Eddy, J. M. (1995). Family and peer influences on smoking behavior among adolescents: An age trend. *Journal of Adolescent Health, 16*(3), 200-203.

[70] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *National survey of American attitudes on substance abuse VII: Teens, parents and siblings.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[71] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *National survey of American attitudes on substance abuse VII: Teens, parents and siblings.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[72] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *National survey of American attitudes on substance abuse VII: Teens, parents and siblings.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[73] Adlaf, E. M., & Smart, R. G. (1985). Drug use and religious affiliation, feelings and behavior. *British Journal of Addiction, 80*(2), 163-171; Bahr, S. J., Maughan, S. L., Marcos, A., & Li, B. (1998). Family, religiosity, and risk of adolescent drug use. *Journal of Marriage and the Family, 60*(4), 979-992; Barnes, G. M., Farrell, M. P., & Banerjee, S. (1995). Family influences on alcohol abuse and other problem behaviors among black and white adolescents in a general population sample. In G. M. Boyd, J. Howard, & R. A. Zucker (Eds.), *Alcohol problems among adolescents: Current directions in prevention research* (pp. 13-31). Hillsdale, NJ: Erlbaum; Benda, B. B., & Corwyn, R. F. (2000). A theoretical model of religiosity and drug use with reciprocal relationships: A test using structural equation modeling. *Journal of Social Service Research, 26*(4), 43-67; Brook, J. S., Brook, D. W., Gordon, A. S., Whiteman, M., & Cohen, P. (1990). The psychosocial etiology of adolescent drug use: A family interactional approach. *Genetic and General Psychology Monographs, 116*(2), 111-267; Brown, T. L., Parks, G. S., Zimmerman, R. S., & Phillips, C. M. (2001). The role of religion in predicting adolescent alcohol use and problem drinking. *Journal of Studies on Alcohol, 62*(5), 696-705; Mason, W. A., & Windle, M. (2002). A longitudinal study of the effects of religiosity on adolescent alcohol use and alcohol-related problems. *Journal of Adolescent Research, 17*(4), 346-363; Miller, L., Davies, M., & Greenwald, S. (2000). Religiosity and substance use and abuse among adolescents in the National Comorbidity Study. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(9), 1190-1197; Stewart, C. (2001). The influence of spirituality on substance use of college students. *Journal of Drug Education, 31*(4), 343-351; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *National survey of American attitudes on substance abuse VI: Teens.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *So help me God: Substance abuse, religion and spirituality.* New York:

The National Center on Addiction and Substance Abuse (CASA) at Columbia University; Vakalahi, H. F., Harrison, R. S., & Janzen, F. V. (2000). The influence of family-based risk and protective factors on adolescent substance use. *Journal of Family Social Work, 4*(1), 21-34; Wallace, J. M., & Bachman, J. G. (1991). Explaining racial/ethnic differences in adolescent drug use: The impact of background and lifestyle. *Social Problems, 38*(3), 333-357.

[74] Adlaf, E. M., & Smart, R. G. (1985). Drug use and religious affiliation, feelings and behavior. *British Journal of Addiction, 80*(2), 163-171; Brown, T. L., Parks, G. S., Zimmerman, R. S., & Phillips, C. M. (2001). The role of religion in predicting adolescent alcohol use and problem drinking. *Journal of Studies on Alcohol, 62*(5), 696-705; DeFronzo, J., & Pawlak, R. (1994). Gender differences in determinants of smoking. *Journal of Drug Issues, 24*(3), 507-516; Strawbridge, W. J., Shema, S. J., Cohen, R. D., & Kaplan, G. A. (2001). Religious attendance increases survival by improving and maintaining good health behaviors, mental health, and social relationships. *Annals of Behavioral Medicine, 23*(1), 68-74.

[75] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[76] Templin, D., & Martin, M. J. (1999). The relationship between religious orientation, gender, and drinking patterns among Catholic college students. *College Student Journal, 33*(4), 488-495.

[77] Forthun, L. F., Bell, N. J., Peek, C. W., & Sun, S. W. (1999). Religiosity, sensation seeking, and alcohol/drug use in denominational and gender contexts. *Journal of Drug Issues, 29*(1), 75-90; Levin, J. S., & Taylor, R. J. (1993). Gender and age differences in religiosity among black Americans. *Gerontologist, 33*(1), 16-23; Miller, L., Davies, M., & Greenwald, S. (2000). Religiosity and substance use and abuse among adolescents in the National Comorbidity Study. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(9), 1190-1197; Miller, A. S., & Hoffman, J. P. (1995). Risk and religion: An explanation of gender differences in religiosity. *Journal for the Scientific Study of Religion, 34*(1), 63-75.

[78] Adlaf, E. M., & Smart, R. G. (1985). Drug use and religious affiliation, feelings and behavior. *British Journal of Addiction, 80*(2), 163-171; Brown, T. L., Parks, G. S., Zimmerman, R. S., & Phillips, C. M. (2001). The role of religion in predicting adolescent alcohol use and problem drinking. *Journal of Studies on Alcohol, 62*(5), 696-705; DeFronzo, J., & Pawlak, R. (1994). Gender differences in determinants of smoking. *Journal of Drug Issues, 24*(3), 507-516; Strawbridge, W. J., Shema, S. J., Cohen, R. D., & Kaplan, G. A. (2001). Religious attendance increases survival by improving and maintaining good health behaviors, mental health, and social relationships. *Annals of Behavioral Medicine, 23*(1), 68-74.

[79] Templin, D., & Martin, M. J. (1999). The relationship between religious orientation, gender, and drinking patterns among Catholic college students. *College Student Journal, 33*(4), 488-495.

[80] Benda, B. B., & Corwyn, R. F. (2000). A theoretical model of religiosity and drug use with reciprocal relationships: A test using structural equation modeling. *Journal of Social Service Research, 26*(4), 43-67.

[81] Benda, B. B., & Corwyn, R. F. (2000). A theoretical model of religiosity and drug use with reciprocal relationships: A test using structural equation modeling. *Journal of Social Service Research, 26*(4), 43-67.

[82] Benda, B. B., & Corwyn, R. F. (2000). A theoretical model of religiosity and drug use with reciprocal relationships: A test using structural equation modeling. *Journal of Social Service Research, 26*(4), 43-67.

[83] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *So help me God: Substance abuse, religion and spirituality*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[84] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *So help me God: Substance abuse, religion and spirituality*. New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[85] $F(3,1210) = 3.25, p<.05$

[86] $F(3,1205) = 19.26, p<.001$

[87] Amey, C. H., Albrecht, S. L., & Miller, M. K. (1996). Racial differences in adolescent drug use: The impact of religion. *Substance Use and Misuse, 31*(10), 1311-1332; Brown, T. L., Parks, G. S., Zimmerman, R. S., & Phillips, C. M. (2001). The role of religion in predicting adolescent alcohol use and problem drinking. *Journal of Studies on Alcohol, 62*(5), 696-705; Maddahian, E., Newcomb, M. D., & Bentler, P. M. (1988). Risk factors for substance use: Ethnic differences among adolescents. *Journal of Substance Abuse, 1*(1), 11-23.

[88] Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1987). *Monitoring the future: Questionnaire responses from the nation's high school seniors*. Ann Arbor, MI: University of Michigan, Institute for Social Research; Barnes, G. M., Farrell, M. P., & Banerjee, S. (1995). Family influences on alcohol abuse and other problem behaviors among

black and white adolescents in a general population sample. In G. M. Boyd, J. Howard, & R. A.; Zucker (Eds.), *Alcohol problems among adolescents: Current directions in prevention research* (pp. 13-31). Hillsdale, NJ: Erlbaum; Brown, T. L., Parks, G. S., Zimmerman, R. S., & Phillips, C. M. (2001). The role of religion in predicting adolescent alcohol use and problem drinking. *Journal of Studies on Alcohol, 62*(5), 696-705; Miller, A. S., & Hoffman, J. P. (1995). Risk and religion: An explanation of gender differences in religiosity. *Journal for the Scientific Study of Religion, 34*(1), 63-75.

[89] Coates, D. L. (1987). Gender differences in the structure and support characteristics of black adolescents' social networks. *Sex Roles, 17*(11-12), 667-687.

[90] Brown, T. L., Parks, G. S., Zimmerman, R. S., & Phillips, C. M. (2001). The role of religion in predicting adolescent alcohol use and problem drinking. *Journal of Studies on Alcohol, 62*(5), 696-705.

[91] Keefe, K., & Newcomb, M. D. (1996). Demographic and psychosocial risk for alcohol use: Ethnic differences. *Journal of Studies on Alcohol, 57*(5), 521-530; Peterson, P. L., Hawkins, J. D., Abbot, R. D., & Catalano, R. F. (1994). Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by black and white adolescents. *Journal of Research on Adolescence, 4*(2), 203-227.

[92] Catalano, R. F., Morrison, D. M., Wells, E. A., Gillmore, M. R., Iritani, B., & Hawkins, J. D. (1992). Ethnic differences in family factors related to early drug initiation. *Journal of Studies on Alcohol, 53*(3), 208-217; Gillmore, M. R., Catalano, R. F., Morrison, D. M., Wells, E. A., Iritani, B., & Hawkins, J. D. (1990). Racial differences in acceptability and availability of drugs and early initiation of substance abuse. *American Journal of Drug and Alcohol Abuse, 16*(3-4), 185-206; Keefe, K., & Newcomb, M. D. (1996). Demographic and psychosocial risk for alcohol use: Ethnic differences. *Journal of Studies on Alcohol, 57*(5), 521-530; Peterson, P. L., Hawkins, J. D., Abbot, R. D., & Catalano, R. F. (1994). Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by black and white adolescents. *Journal of Research on Adolescence, 4*(2), 203-227.

[93] Peterson, P. L., Hawkins, J. D., Abbot, R. D., & Catalano, R. F. (1994). Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by black and white adolescents. *Journal of Research on Adolescence, 4*(2), 203-227.

[94] Catalano, R. F., Morrison, D. M., Wells, E. A., Gillmore, M. R., Iritani, B., & Hawkins, J. D. (1992). Ethnic differences in family factors related to early drug initiation. *Journal of Studies on Alcohol, 53*(3), 208-217.

[95] Richardson, J. L., Dwyer, K., McGuigan, K., Hansen, W. B., Dent, C., Anderson Johnson, C., et al. (1989). Substance use among eighth-grade students who take care of themselves after school. *Pediatrics, 84*(3), 556-566.

[96] Au, J. G., & Donaldson, S. I. (2000). Social influences as explanations for substance use differences among Asian-American and European-American adolescents. *Journal of Psychoactive Drugs, 32*(1), 15-23; Catalano, R. F., Morrison, D. M., Wells, E. A., Gillmore, M. R., Iritani, B., & Hawkins, J. D. (1992). Ethnic differences in family factors related to early drug initiation. *Journal of Studies on Alcohol, 53*(3), 208-217.

[97] Barnes, G. M., Farrell, M. P., & Banerjee, S. (1994). Family influences on alcohol abuse and other problem behaviors among black and white adolescents in a general population sample. *Journal of Research on Adolescence, 4*(2), 183-201; Catalano, R. F., Morrison, D. M., Wells, E. A., Gillmore, M. R., Iritani, B., & Hawkins, J. D. (1992). Ethnic differences in family factors related to early drug initiation. *Journal of Studies on Alcohol, 53*(3), 208-217.

[98] Johnson, H. L., & Johnson, P. B. (1999). Cultural and familial influences that maintain the negative meaning of alcohol. *Journal of Studies on Alcohol, Suppl. 13*, 79-83.

[99] Brook, J. S., Balka, E. B., Brook, D. W., Win, P. T., & Gursen, M. D. (1998). Drug use among African Americans: Ethnic identity as a protective factor. *Psychological Reports, 83*(3), 1427-1446; Brook, J. S., Whiteman, M., Balka, E. B., Win, P. T., & Gursen, M. D. (1998). Drug use among Puerto Ricans: Ethnic identity as a protective factor. *Hispanic Journal of Behavioral Sciences, 20(2)*, 241-254; Wallace, J. M. (1999). The social ecology of addiction: Race, risk, and resilience. *Pediatrics, 103*(5), 1122-1127.

[100] Marsiglia, F. F., Kulis, S., & Hecht, M. L. (2001). Ethnic labels and ethnic identity as predictors of drug use among middle school students in the southwest. *Journal of Research on Adolescence, 11*(1), 21-48.

[101] Richter, L., & Kruglanski, A. W. (in press). Motivated closed-mindedness and the emergence of culture. In M. Schaller & C. R. Crandall (Eds.), *The psychological foundations of culture*. Mahwah, NJ: Erlbaum; Wallace, J. M. (1999). The social ecology of addiction: Race, risk, and resilience. *Pediatrics, 103*(5), 1122-1127.

[102] Alaniz, M. L., Treno, A. J., & Saltz, R. F. (1999). Gender, acculturation, and alcohol consumption among Mexican Americans. *Substance Use and Misuse, 34*(10), 1407-1426; Caetano, R. (1987). Acculturation and drinking patterns among U.S. Hispanics. *British Journal of Addiction, 82*(7), 789-799; Caetano, R. (1988). Alcohol use among Hispanic groups in the United States. *American Journal of Drug and Alcohol Abuse, 14*(3), 292-308; Cervantes, R. C., Gilbert, M. J., Salgado de Snyder, N., & Padilla, A. M. (1990-1991). Psychosocial and cognitive

correlates of alcohol use in young adult immigrant and U.S. born Hispanics. *International Journal of the Addictions, 25*(5A-6A), 687-708; Cuadrado, M., & Lieberman, L. (1998). Traditionalism in the prevention of substance misuse among Puerto Ricans. *Substance Use and Misuse, 33*(14), 2737-2755; Epstein, J. A., Botvin, G. J., & Diaz, T. (2000). Alcohol use among Hispanic adolescents: Role of linguistic acculturation and gender. *Journal of Alcohol and Drug Education, 45*(3), 18-32; Epstein, J. A., Botvin, G. J., & Diaz, T. (2001). Linguistic acculturation associated with higher marijuana and polydrug use among Hispanic adolescents. *Substance Use and Misuse, 36*(4), 477-499.

[103] Gilbert, M. J. (1991). Acculturation and changes in drinking patterns among Mexican-American women: Implications for prevention. *Alcohol Health and Research World, 15*(3), 234-238.

[104] Gilbert, M. J. (1991). Acculturation and changes in drinking patterns among Mexican-American women: Implications for prevention. *Alcohol Health and Research World, 15*(3), 234-238.

[105] Cuadrado, M., & Lieberman, L. (1998). Traditionalism in the prevention of substance misuse among Puerto Ricans. *Substance Use and Misuse, 33*(14), 2737-2755.

[106] Allison, K. W., Crawford, I., Leone, P. E., Trickett, E., Perez-Febles, A., Burton, L. M., et al. (1999). Adolescent substance use: Preliminary examinations of school and neighborhood context. *American Journal of Community Psychology, 27*(2), 111-141; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *Malignant neglect: Substance abuse and America's schools.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[107] Benard, B. (1991). *Fostering resiliency in kids: Protective factors in family, school, and community.* Portland, OR: Northwest Regional Educational Laboratory; Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., et al. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *JAMA, 278*(10), 823-832; Rhodes, J. E., & Jason, L. A. (1988). *Preventing substance abuse among children and adolescents.* New York: Pergamon Books.

[108] Wallace, J. M. (1999). The social ecology of addiction: Race, risk, and resilience. *Pediatrics, 103*(5), 1122-1127.

[109] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[110] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[111] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[112] Luthar, S. S., & D'Avanzo, K. (1999). Contextual factors in substance use: A study of suburban and inner-city adolescents. *Development and Psychopathology, 11*(4), 845-867.

[113] Luthar, S. S., & D'Avanzo, K. (1999). Contextual factors in substance use: A study of suburban and inner-city adolescents. *Development and Psychopathology, 11*(4), 845-867.

[114] Luthar, S. S., & D'Avanzo, K. (1999). Contextual factors in substance use: A study of suburban and inner-city adolescents. *Development and Psychopathology, 11*(4), 845-867.

[115] Luthar, S. S., & D'Avanzo, K. (1999). Contextual factors in substance use: A study of suburban and inner-city adolescents. *Development and Psychopathology, 11*(4), 845-867.

[116] Luthar, S. S., & Becker, B. E. (2002). Privileged but pressured? A study of affluent youth. *Child Development, 73*(5), 1593-1610.

[117] Luthar, S. S., & Becker, B. E. (2002). Privileged but pressured? A study of affluent youth. *Child Development, 73*(5), 1593-1610.

[118] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[119] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of

Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[120] Crum, R. M., Lillie-Blanton, M., & Anthony, J. C. (1996). Neighborhood environment and opportunity to use cocaine and other drugs in late childhood and early adolescence. *Drug and Alcohol Dependence, 43*(3), 155-161; Moon, D. G., Hecht, M. L., Jackson, K. M., & Spellers, R. E. (1999). Ethnic and gender differences and similarities in adolescent drug use and refusals of drug offers. *Substance Use and Misuse, 34*(8), 1059-1083; Robinson, L. A., & Klesges, R. C. (1997). Ethnic and gender differences in risk factors for smoking onset. *Health Psychology, 16*(6), 499-505.

[121] Van Etten, M. L., Neumark, Y. D., & Anthony, J. C. (1999). Male-female differences in the earliest stages of drug involvement. *Addiction, 94*(9), 1413-1419.

[122] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[123] Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

[124] Castrucci, B. C., Gerlach, K. K., Kaufman, N. J., & Orleans, C. J. (2002). Adolescents' acquisition of cigarettes through noncommercial sources. *Journal of Adolescent Health, 31*(4), 322-326.

[125] Office of Applied Studies. (2001). *Availability of illicit drugs to females aged 12 to 17.* [On-line]. Retrieved November 30, 2001 from the World Wide Web: http://www.drugabusestatistics.samhsa.gov/.

[126] Office of Applied Studies. (2001). *Summary of findings from the 2000 National Household Survey on Drug Abuse* (DHHS Pub. No. (SMA) 01-3549). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[127] Moon, D. G., Hecht, M. L., Jackson, K. M., & Spellers, R. E. (1999). Ethnic and gender differences and similarities in adolescent drug use and refusals of drug offers. *Substance Use and Misuse, 34*(8), 1059-1083.

[128] Moon, D. G., Hecht, M. L., Jackson, K. M., & Spellers, R. E. (1999). Ethnic and gender differences and similarities in adolescent drug use and refusals of drug offers. *Substance Use and Misuse, 34*(8), 1059-1083.

[129] Moon, D. G., Hecht, M. L., Jackson, K. M., & Spellers, R. E. (1999). Ethnic and gender differences and similarities in adolescent drug use and refusals of drug offers. *Substance Use and Misuse, 34*(8), 1059-1083.

[130] Moon, D. G., Hecht, M. L., Jackson, K. M., & Spellers, R. E. (1999). Ethnic and gender differences and similarities in adolescent drug use and refusals of drug offers. *Substance Use and Misuse, 34*(8), 1059-1083.

[131] Moon, D. G., Hecht, M. L., Jackson, K. M., & Spellers, R. E. (1999). Ethnic and gender differences and similarities in adolescent drug use and refusals of drug offers. *Substance Use and Misuse, 34*(8), 1059-1083.

[132] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[133] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *National survey of American attitudes on Substance Abuse VI: Teens.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[134] Hellandsjøbu, E. T., Watten, R. G., Foxcroft, D. R., Ingebrigtsen, J. E., & Relling, G. (2002). Teenage alcohol and intoxication debut: The impact of family socialization factors, living area and participation in organized sports. *Alcohol and Alcoholism, 37*(1), 74-80; The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *National survey of American attitudes on Substance Abuse VI: Teens.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[135] Zill, N., Nord, C. W., & Loomis, L. S. (1995). *Adolescent time use, risky behavior and outcomes: An analysis of national data: Executive summary.* Rockville, MD: Westat.

Chapter VII
Notes

[1] Abdelrahman, A. I., Rodriguez, G., Ryan, J. A., French, J. F., & Weinbaum, D. (1998). The epidemiology of substance use among middle school students: The impact of school, familial, community and individual risk factors. *Journal of Child and Adolescent Substance Abuse, 8*(1), 55-75; Brook, J. S., Brook, D. W., Whiteman, M., Gordon, A. S., & Cohen, P. (1990). The psychosocial etiology of adolescent drug use: A family interactional approach. *Genetic, Social and General Psychology Monographs, 116*(2), 111-267; Brook, J. S., Richter, L., & Whiteman, M. (in press). Risk and protective factors of adolescent drug use: Implications for prevention programs. In W. J. Bukoski & Z. Sloboda (Eds.), *Handbook for drug abuse prevention theory, science, and practice*. New York: Plenum Press; Oetting, E. R., & Beauvais, F. (1987). Common elements in youth drug abuse: Peer clusters and other psychosocial factors. *Journal of Drug Issues, 17*(1), 133-151; Oetting, E. R., & Beauvais, F. (1987). Peer cluster theory, socialization characteristics and adolescent drug use: A path analysis. *Journal of Counseling Psychology, 34*(2), 205-213; Wang, M. Q., Fitzhugh, E. C., Westerfield, R. C., & Eddy, J. M. (1995). Family and peer influences on smoking behavior among American adolescents: An age trend. *Journal of Adolescent Health, 16*(3), 200-203.

[2] Clapper, R. L., Martin, C. S., & Clifford, P. R. (1994). Personality, social environment, and past behavior as predictors of late adolescent alcohol use. *Journal of Substance Abuse, 6*(3), 305-313; Farrell, A. D., & White, K. S. (1998). Peer influences and drug use among urban adolescents: Family structure and parent-adolescent relationship as protective factors. *Journal of Consulting and Clinical Psychology, 66*(2), 248-258; Kandel, D. B. (1985). On processes of peer influence in adolescent drug use: A developmental perspective. *Advances in Alcohol and Substance Abuse, 4*(3-4), 139-163; Kaufman, N. J., Castrucci, B. C., Mowery, P. D., Gerlach, K. K., Emont, S., & Orleans, C. T. (2002). Predictors of change on the smoking uptake continuum among adolescents. *Archives of Pediatrics and Adolescent Medicine, 156*(6), 581-587; Ouellette, J. A., Gerrard, M., Gibbons, F. X., & Reis-Bergan, M. (1999). Parents, peers, and prototypes: Antecedents of adolescent alcohol expectancies, alcohol consumption, and alcohol-related life problems in rural youth. *Psychology of Addictive Behaviors, 13*(3), 183-197; Simons-Morton, B., Haynie, D. L., Crump, A. D., Eitel, S. P., & Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107; Steinberg, L., Fletcher, A., & Darling, N. (1994). Parental monitoring and peer influences on adolescent substance use. *Pediatrics, 93*(6, Pt. 2), 1060-1064; Unger, J. B., & Rohrbach, L. A. (2002). Why do adolescents overestimate their peers' smoking prevalence? Correlates of prevalence estimates among California 8th-grade students. *Journal of Youth and Adolescence, 31*(2), 147-153.

[3] Barber, J. G., Bolitho, F., & Bertrand, L. D. (1999). Intrapersonal versus peer group predictors of adolescent drug use. *Children and Youth Services Review, 21*(7), 565-579; Borsari, B., & Carey, K. B. (2001). Peer influences on college drinking: A review of the research. *Journal of Substance Abuse, 13*(4), 391-424; Simons-Morton, B., Haynie, D. L., Crump, A. D., Eitel, P., Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107.

[4] Hu, F. B., Flay, B. R., Hedeker, D., Siddiqui, O., & Day, L. E. (1995). The influences of friends' and parental smoking on adolescent smoking behavior: The effects of time and prior smoking. *Journal of Applied Social Psychology, 25*(22), 2018-2047; Schulenberg, J., Maggs, J. L., Dielman, T. E., Leech, S. L., Kloska, D. D., Shope, J. T., et al. (1999). On peer influences to get drunk: A panel study of young adolescents. *Merrill-Palmer Quarterly, 45*(1), 108-142; Simons-Morton, B., Haynie, D. L, Crump, A. D., Eitel, P., Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107.

[5] Hu, F. B., Flay, B. R., Hedeker, D., Siddiqui, O., & Day, L. E. (1995). The influences of friends' and parental smoking on adolescent smoking behavior: The effects of time and prior smoking. *Journal of Applied Social Psychology, 25*(22), 2018-2047.

[6] Belle, D. (1989). Gender differences in children's social networks and supports. In D. Belle (Ed.), *Children's social networks and social supports* (pp. 173-188). New York: John Wiley and Sons.

[7] Belle, D. (1989). Gender differences in children's social networks and supports. In D. Belle (Ed.), *Children's social networks and social supports* (pp. 173-188). New York: John Wiley and Sons.

[8] Cauce, A. M., Felner, R. D., & Primavera, J. (1982). Social support in high-risk adolescents: Structural components and adaptive impact. *American Journal of Community Psychology, 10*(4), 417- 428.

[9] Borsari, B., & Carey, K. B. (2001). Peer influences on college drinking: A review of the research. *Journal of Substance Abuse, 13*(4), 391-424.

Olds, R. S., & Thombs, D. L. (2001). The relationship of adolescent perceptions of peer norms and parent involvement to cigarette and alcohol use. *Journal of School Health, 71*(6), 223-228; Page, R. M., Hammermeister, J., & Roland, M. (2002). Are high school students accurate or clueless in estimating substance use among peers? *Adolescence, 37*(147), 567-573; Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002). *A call to action: Changing the culture of drinking at U.S. colleges* (NIH Pub. No. 02-5010). Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism.

[10] Olds, R. S., & Thombs, D. L. (2001). The relationship of adolescent perceptions of peer norms and parent involvement to cigarette and alcohol use. *Journal of School Health, 71*(6), 223-228.

[11] Chassin, L., Presson, C. C., Sherman, S., Montello, D., & McGrew, J. (1986). Changes in peer and parent influence during adolescence: Longitudinal versus cross-sectional perspectives on smoking initiation. *Developmental Psychology, 22*(3), 327-334; Siddiqui, O., Mott, J., Anderson, T., & Flay, B. (1999). The application of Poisson random-effects regression models to the analyses of adolescents' current level of smoking. *Preventive Medicine, 29*(2), 92-101.

[12] $X^2=116.99$; $X^2=262.55$; $X^2=43.36$; $X^2=8.9$, all p's$<.05$.

[13] Borsari, B., & Carey, K. B. (2001). Peer influences on college drinking: A review of the research. *Journal of Substance Abuse, 13*(4), 391-424; Chassin, L., Presson, C. C., Sherman, S., Montello, D., & McGrew, J. (1986). Changes in peer and parent influence during adolescence: Longitudinal versus cross-sectional perspectives on smoking initiation. *Developmental Psychology, 22*(3), 327-334; Hawkins, J. D., Graham, J. W., Maguin, E., Abbott, R., Hill, K. G., & Catalano, R. F. (1997). Exploring the effects of age of alcohol use initiation and psychosocial risk factors on subsequent alcohol misuse. *Journal of Studies on Alcohol, 58*(3), 280-290; Reifman, A., Barnes, G. M., Dintcheff, B. A., Farrell, M. P., & Uhteg, L. (1998). Parental and peer influences on the onset of heavier drinking among adolescents. *Journal of Studies on Alcohol, 59*(3), 311-317.

[14] Abdelrahman, A. I., Rodriguez, G., Ryan, J. A., French, J. F., & Weinbaum, D. (1998). The epidemiology of substance use among middle school students: The impact of school, familial, community and individual risk factors. *Journal of Child and Adolescent Substance Abuse, 8*(1), 55-75.

[15] Abdelrahman, A. I., Rodriguez, G., Ryan, J. A., French, J. F., & Weinbaum, D. (1998). The epidemiology of substance use among middle school students: The impact of school, familial, community and individual risk factors. *Journal of Child and Adolescent Substance Abuse, 8*(1), 55-75.

[16] Abdelrahman, A. I., Rodriguez, G., Ryan, J. A., French, J. F., & Weinbaum, D. (1998). The epidemiology of substance use among middle school students: The impact of school, familial, community and individual risk factors. *Journal of Child and Adolescent Substance Abuse, 8*(1), 55-75.

[17] Simons-Morton, B., Haynie, D. L, Crump, A. D., Eitel, P., Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107.

[18] Santor, D. A., Messervey, D., & Kusumakar, V. (2000). Measuring peer pressure, popularity, and conformity in adolescent boys and girls: Predicting school performance, sexual attitudes, and substance abuse. *Journal of Youth and Adolescence, 29*(2), 163-182; Simons-Morton, B., Haynie, D. L, Crump, A. D., Eitel, P., Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107.

[19] $X^2=112.62$; $X^2=167.56$; $X^2=96.88$, all p's$<.001$.

[20] Seguire, M., & Chalmers, K. I. (2000). Late adolescent female smoking. *Journal of Advanced Nursing, 31*(6), 1422-1429.

[21] Seguire, M., & Chalmers, K. I. (2000). Late adolescent female smoking. *Journal of Advanced Nursing, 31*(6), 1422-1429.

[22] Michell, L., & Amos, A. (1997). Girls, pecking order and smoking. *Social Science and Medicine, 44*(12), 1861-1869; Unger, J. B., & Rohrbach, L. A. (2002). Why do adolescents overestimate their peers' smoking prevalence? Correlates of prevalence estimates among California 8th-grade students. *Journal of Youth and Adolescence, 31*(2), 147-153.

[23] Michell, L., & Amos, A. (1997). Girls, pecking order and smoking. *Social Science and Medicine, 44*(12), 1861-1869.

[24] Michell, L., & Amos, A. (1997). Girls, pecking order and smoking. *Social Science and Medicine, 44*(12), 1861-1869.

[25] Farrell, A. D., & White, K. S. (1998). Peer influences and drug use among urban adolescents: Family structure and parent-adolescent relationship as protective factors. *Journal of Consulting and Clinical Psychology, 66*(2), 248-258; Simons-Morton, B., Haynie, D. L, Crump, A. D., Eitel, P., Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107.

[26] Simons-Morton, B., Haynie, D. L., Crump, A. D., Eitel, S. P., & Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107.

[27] Simons-Morton, B., Haynie, D. L, Crump, A. D., Eitel, P., Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107. *However, a different study of young teens found that peer pressure was a better predictor of boys' than girls' smoking and drinking but a better predictor of girls' than boys' illicit drug use.* Barber, J. G., Bolitho, F., & Bertrand, L. D. (1999). Intrapersonal versus peer group predictors of adolescent drug use. *Children and Youth Services Review, 21*(7), 565-579.

[28] Borsari, B., & Carey, K. B. (2001). Peer influences on college drinking: A review of the research. *Journal of Substance Abuse, 13*(4), 391-424.

[29] Barnes, G. M., Farrell, M. P., & Banerjee, S. (1994). Family influences on alcohol abuse and other problem behaviors among black and white adolescents in a general population sample. *Journal of Research on Adolescence, 42*(2), 183-201; Gottfredson, D. C., & Koper, C. S. (1996). Race and sex differences in the prediction of drug use. *Journal of Consulting and Clinical Psychology, 64*(2), 305-313; Landrine, H., Richardson, J. L., Klonoff, E. A., & Flay, B. (1994). Cultural diversity in the predictors of adolescent cigarette smoking: The relative influence of peers. *Journal of Behavioral Medicine, 17*(3), 331-346.

[30] Robinson, L. A., & Klesges, R. C. (1997). Ethnic and gender differences in risk factors for smoking onset. *Health Psychology, 16*(6), 499-505.

[31] Epstein, J. A., Botvin, G. J., & Diaz, T. (1999). Etiology of alcohol use among Hispanic adolescents: Sex specific effects of social influences to drink and problem behaviors. *Archives of Pediatrics and Adolescent Medicine, 153*(10), 1077-1084.

Chapter VIII
Notes

[1] Nielsen Media Research. (2000). *2000 report on television: The first 50 years.* New York: Nielsen Media Research.

[2] Office of National Drug Control Policy & Department of Health and Human Services. (1999). *Substance use in popular movies and music.* [On-line]. Retrieved December 4, 2001 from the World Wide Web: http://www.mediacampaign.org.

[3] Office of National Drug Control Policy & Department of Health and Human Services. (1999). *Substance use in popular movies and music.* [On-line]. Retrieved December 4, 2001 from the World Wide Web: http://www.mediacampaign.org.

[4] Office of National Drug Control Policy & Department of Health and Human Services. (1999). *Substance use in popular movies and music.* [On-line]. Retrieved December 4, 2001 from the World Wide Web: http://www.mediacampaign.org.

[5] Roberts, D. F., & Christenson, P. G. (2000). *"Here's looking at you, kid": Alcohol, drugs and tobacco in the entertainment media: A literature review prepared by the National Center on Addiction and Substance Abuse at Columbia University.* Menlo Park, CA: Henry J. Kaiser Family Foundation.

[6] Greene, S. M. (1992). *Alcohol, tobacco campaigns frequently aim at women, children, minorities: Marketers target "vulnerable" consumers.* [On-line]. Retrieved June 11, 2002from the World Wide Web: http://www.drugs.indiana.edu.

[7] Greene, S. M. (1992). *Alcohol, tobacco campaigns frequently aim at women, children, minorities: Marketers target "vulnerable" consumers.* [On-line]. Retrieved June 11, 2002 from the World Wide Web: http://www.drugs.indiana.edu.

[8] Center on Alcohol Marketing and Youth. (2002). *Overexposed: Youth a target of alcohol advertising in magazines.* Washington, DC: Georgetown University, Center on Alcohol Marketing and Youth.

[9] Center on Alcohol Marketing and Youth. (2002). *Television: Alcohol's vast adland.* Washington, DC: Georgetown University, Center on Alcohol Marketing and Youth.

[10] American Medical Association. (2002). *Underage drinkers at higher risk of brain damage than adults, American Medical Association report reveals.* [Press release]. Chicago: American Medical Association.

[11] Biener, L., & Siegel, M. (2000). Tobacco marketing and adolescent smoking: More support for a causal inference. *American Journal of Public Health, 90*(3), 407-411; Center on Alcohol Marketing and Youth. (2002). *Television: Alcohol's vast adland.* Washington, DC: Georgetown University, Center on Alcohol Marketing and Youth; Choi, W. S., Ahluwalia, J. S., Harris, K. J., & Okuyemi, K. (2002). Progression to established smoking: The influence of tobacco marketing. *American Journal of Preventive Medicine, 22*(4), 228-233; Martin, S. E., Snyder, L. B., Hamilton, M., Fleming-Milici, F., Slater, M. D., Stacy, A., et al. (2002). Alcohol advertising and youth. *Alcoholism: Clinical and Experimental Research, 26*(6), 900-906.

[12] Amos, A., & Haglund, M. (2000). From social taboo to "torch of freedom": The marketing of cigarettes to women. *Tobacco Control, 9*(1), 3-8.

[13] Amos, A., & Haglund, M. (2000). From social taboo to "torch of freedom": The marketing of cigarettes to women. *Tobacco Control, 9*(1), 3-8.

[14] Pierce, J. P., Lee, L., & Gilpin, E. A. (1994). Smoking initiation by adolescent girls, 1944 through 1988: Associations with targeted advertising. *JAMA, 271*(8), 608-611.

[15] Pierce, J. P., & Gilpin, E. A. (1995). A historical analysis of tobacco marketing and the uptake of smoking by youth in the United States: 1890-1977. *Health Psychology, 14*(6), 500-508.

[16] Pierce, J. P., Lee, L., & Gilpin, E. A. (1994). Smoking initiation by adolescent girls, 1944 through 1988: Associations with targeted advertising. *JAMA, 271*(8), 608-611.

[17] Pierce, J. P., Lee, L., & Gilpin, E. A. (1994). Smoking initiation by adolescent girls, 1944 through 1988: Associations with targeted advertising. *JAMA, 271*(8), 608-611.

[18] Pierce, J. P., Lee, L., & Gilpin, E. A. (1994). Smoking initiation by adolescent girls, 1944 through 1988: Associations with targeted advertising. *JAMA, 271*(8), 608-611.

[19] Ogletree, S. M., Williams, S. W., Raffeld, P., Mason, B., & Fricke, K. (1990). Female attractiveness and eating disorders: Do children's television commercials play a role? *Sex Roles, 22*(11-12), 791-797.

[20] Amos, A., & Haglund, M. (2000). From social taboo to "torch of freedom": The marketing of cigarettes to women. *Tobacco Control, 9*(1), 3-8.

[21] Amos, A., & Haglund, M. (2000). From social taboo to "torch of freedom": The marketing of cigarettes to women. *Tobacco Control, 9*(1), 3-8; Kilbourne, J. (1994). Still killing us softly: Advertising and the obsession with thinness. In P. Fallon, M. A. Katzman, & S. C. Wooley (Eds.), *Feminist perspectives on eating disorders* (pp. 395-418). New York: Guilford Press.

[22] Pierce, J. P., & Gilpin, E. A. (1995). A historical analysis of tobacco marketing and the uptake of smoking by youth in the United States: 1890-1977. *Health Psychology, 14*(6), 500-508; Pierce, J. P., Lee, L., & Gilpin, E. A. (1994). Smoking initiation by adolescent girls, 1944 through 1988: An association with targeted advertising. *JAMA, 271*(8), 608-611.

[23] Grube, J. W., & Wallack, L. (1994). Television beer advertising and drinking knowledge, beliefs and intentions among schoolchildren. *American Journal of Public Health, 84*(2), 254-259.

[24] Grube, J. W., & Wallack, L. (1994). Television beer advertising and drinking knowledge, beliefs and intentions among schoolchildren. *American Journal of Public Health, 84*(2), 254-259; Leiber, L. (1996). *Commercial and character slogan recall by children aged 9 to 11 years: Budweiser frogs versus Bugs Bunny.* San Francisco: Trauma Foundation, Center on Alcohol Advertising.

[25] Grube, J. W., & Wallack, L. (1994). Television beer advertising and drinking knowledge, beliefs and intentions among schoolchildren. *American Journal of Public Health, 84*(2), 254-259.

[26] Leiber, L. (1996). *Commercial and character slogan recall by children aged 9 to 11 years: Budweiser frogs versus Bugs Bunny.* San Francisco: Trauma Foundation, Center on Alcohol Advertising.

[27] Leiber, L. (1996). *Commercial and character slogan recall by children aged 9 to 11 years: Budweiser frogs versus Bugs Bunny.* San Francisco: Trauma Foundation, Center on Alcohol Advertising.

[28] Grube, J. W. (1993). Alcohol portrayals and alcohol advertising on television. *Alcohol Health and Research World, 17*(1), 54-60; Grube, J. W., & Wallack, L. (1994). Television beer advertising and drinking knowledge, beliefs and intentions among schoolchildren. *American Journal of Public Health, 84*(2), 254-259; Martin, S. E., Snyder, L. B., Hamilton, M., Fleming-Milici, F., Slater, M. D., Stacy, A., et al. (2002). Alcohol advertising and youth. *Alcoholism: Clinical and Experimental Research, 26*(6), 900-906.

[29] Roberts, C., Blakey, V., & Tudor-Smith, C. (1999). The impact of "alcopops" on regular drinking by young people in Wales. *Drugs: Education, Prevention and Policy, 6*(1), 7-15.

[30] Sutherland, I., & Willner, P. (1998). Patterns of alcohol, cigarette and illicit drug use in English adolescents. *Addiction, 93*(8), 1199-1208.

[31] Leeming, D., Hanley, M., & Lyttle, S. (2002). Young people's images of cigarettes, alcohol, and drugs. *Drugs: Education, Prevention and Policy, 9*(2), 169-185.

[32] Center for Science in the Public Interest. (2001). *National poll shows "alcopop" drinks lure teens: Groups demand government investigate "starter suds"* [Press release]. Washington, DC: Center for Science in the Public Interest.

[33] Center for Science in the Public Interest. (2001). *National poll shows "alcopop" drinks lure teens: Groups demand government investigate "starter suds"* [Press release]. Washington, DC: Center for Science in the Public Interest.

[34] Center for Science in the Public Interest. (2001). *National poll shows "alcopop" drinks lure teens: Groups demand government investigate "starter suds"* [Press release]. Washington, DC: Center for Science in the Public Interest.

[35] Roberts, D. F., & Christenson, P. G. (2000). *"Here's looking at you, kid": Alcohol, drugs and tobacco in the entertainment media: A literature review prepared by the National Center on Addiction and Substance Abuse at Columbia University.* Menlo Park, CA: Henry J. Kaiser Family Foundation; Sargent, J. D., Beach, M. L., Dalton, M., Mott, L. A., Tickle, J. J., Ahrens, M. B., et al. (2001). Effect of seeing tobacco use in films on trying smoking among adolescents: Cross sectional study. *British Medical Journal, 323*(7326), 1-6.

[36] Centers for Disease Control and Prevention. (2001). *Tobacco information and prevention source (TIPS): Historical fact sheet.* [On-line]. Retrieved May 20, 2002 from the World Wide Web: http://www.cdc.gov.

[37] Office of National Drug Control Policy & Department of Health and Human Services. (1999). *Substance use in popular movies and music.* [On-line]. Retrieved December 4, 2001 from the World Wide Web: http://www.mediacampaign.org.

[38] Escamilla, G., Cradock, A. L., & Kawachi, I. (2000). Women and smoking in Hollywood movies: A content analysis. *American Journal of Public Health, 90*(3), 412-414.

[39] Escamilla, G., Cradock, A. L., & Kawachi, I. (2000). Women and smoking in Hollywood movies: A content analysis. *American Journal of Public Health, 90*(3), 412-414.

[40] Goldstein, A. O., Sobel, R. A., & Newman, G. R. (1999). Tobacco and alcohol use in G-rated children's animated films. *JAMA, 281*(12), 1131-1136.

[41] Escamilla, G., Cradock, A. L., & Kawachi, I. (2000). Women and smoking in Hollywood movies: A content analysis. *American Journal of Public Health, 90*(3), 412-414.

[42] Roberts, D. F., & Christenson, P. G. (2000). *"Here's looking at you, kid": Alcohol, drugs and tobacco in the entertainment media: A literature review prepared by the National Center on Addiction and Substance Abuse at Columbia University.* Menlo Park, CA: Henry J. Kaiser Family Foundation.

[43] Wallack, L., Grube, J., Madden, P., & Breed, W. (1990). Portrayals of alcohol on prime-time television. *Journal of Studies on Alcohol, 51*(5), 428-437.

[44] Wallack, L., Grube, J., Madden, P., & Breed, W. (1990). Portrayals of alcohol on prime-time television. *Journal of Studies on Alcohol, 51*(5), 428-437.

[45] Roberts, D. F., & Christenson, P. G. (2000). *"Here's looking at you, kid": Alcohol, drugs and tobacco in the entertainment media: A literature review prepared by the National Center on Addiction and Substance Abuse at Columbia University.* Menlo Park, CA: Henry J. Kaiser Family Foundation.

[46] Roberts, D. F., & Christenson, P. G. (2000). *"Here's looking at you, kid": Alcohol, drugs and tobacco in the entertainment media: A literature review prepared by the National Center on Addiction and Substance Abuse at Columbia University.* Menlo Park, CA: Henry J. Kaiser Family Foundation; Wallack, L., Grube, J., Madden, P., & Breed, W. (1990). Portrayals of alcohol on prime-time television. *Journal of Studies on Alcohol, 51*(5), 428-437.

[47] Roberts, D. F., & Christenson, P. G. (2000). "Here's looking at you, kid": Alcohol, drugs and tobacco in the entertainment media: A literature review prepared by the National Center on Addiction and Substance Abuse at Columbia University. Menlo Park, CA: Henry J. Kaiser Family Foundation; Wallack, L., Grube, J., Madden, P., & Breed, W. (1990). Portrayals of alcohol on prime-time television. Journal of Studies on Alcohol, *51*(5), 428-437.

[48] Wallack, L., Grube, J., Madden, P., & Breed, W. (1990). Portrayals of alcohol on prime-time television. *Journal of Studies on Alcohol, 51*(5), 428-437.

Chapter IX
Notes

[1] Substance Abuse and Mental Health Services Administration. (1995) *Making the link: Alcohol, tobacco and other drugs and women's health.* [On-line] Retrieved October 12, 2002 from the World Wide Web: http://www.health.org/govpubs.

[2] Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth Programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[3] Hallfors, D., & Van Dorn, R. A. (2002). Strengthening the role of two key institutions in the prevention of adolescent substance abuse. *Journal of Adolescent Health, 30*(1), 17-28; National Center for Health Statistics. (2001). *Healthy people 2000 final review.* Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.

[4] Hallfors, D., & Van Dorn, R. A. (2002). Strengthening the role of two key institutions in the prevention of adolescent substance abuse. *Journal of Adolescent Health, 30*(1), 17-28; Most doctors don't counsel teens about smoking. (1999). *Alcoholism and Drug Abuse Weekly, 11*(44), 8.

[5] Blake, S. M., Amaro, H., Schwartz, P., & Flinchbaugh, L. J. (2001). A review of substance abuse prevention interventions for young adolescent girls. *Journal of Early Adolescence, 21*(3), 294-324; Falco, M. (1992). The making of a drug-free America: Programs that work. New York: Times Books.

[6] Blake, S. M., Amaro, H., Schwartz, P., & Flinchbaugh, L. J. (2001). A review of substance abuse prevention interventions for young adolescent girls. *Journal of Early Adolescence, 21*(3), 294-324.

[7] Amaro, H., Blake, S. M., Schwartz, P., & Flinchbaugh, L. J. (2001). Developing theory-based substance abuse prevention programs for young adolescent girls. *Journal of Early Adolescence, 21*(3), 256-293; Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth Programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[8] Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth Programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[9] Pulkkinen, L., & Pitkanen, T. A. (1994). Prospective study of the precursors to problem drinking in young adulthood. *Journal of Studies on Alcohol, 55*(5), 578-587.

[10] Blake, S. M., Amaro, H., Schwartz, P. M., & Flinchbaugh, L. J. (2001). A review of substance abuse prevention interventions for young adolescent girls. *Journal of Early Adolescence, 21*(3), 294-324; Guthrie, B. J., & Flinchbaugh, L. J. (2001). Gender-specific substance prevention programming: Going beyond just focusing on girls. *Journal of Early Adolescence, 21*(3), 354-372.

[11] Amaro, H., Blake, S. M., Schwartz, P. M., & Flinchbaugh, L. J. (2001). Developing theory-based substance abuse prevention programs for young adolescent girls. *Journal of Early Adolescence, 21*(3), 256-293.

[12] Blake, S. M., Amaro, H., Schwartz, P. M., & Flinchbaugh, L. J. (2001). A review of substance abuse prevention interventions for young adolescent girls. *Journal of Early Adolescence, 21*(3), 294-324.; Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[13] Blake, S. M., Amaro, H., Schwartz, P. M., & Flinchbaugh, L. J. (2001). A review of substance abuse prevention interventions for young adolescent girls. *Journal of Early Adolescence, 21*(3), 294-324.

[14] Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[15] Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[16] Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[17] Falco, M. (1992). The making of a drug-free America: Programs that work. New York: Times Books; Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). The National Cross-site Evaluation of High-risk Youth programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention; Tobler, N. S., Roona, M. R., Ochshorn, P., Marshall, D. G., Streke, A. V., & Stackpole, K. M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention, 20*(4), 275-336.

[18] Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[19] Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[20] Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[21] Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[22] Sarigiani, P. A., Ryan, L., & Petersen, A. C. (1999). Prevention of high-risk behaviors in adolescent women. *Journal of Adolescent Health, 25*(2), 109-119.

[23] Sarigiani, P. A., Ryan, L., & Petersen, A. C. (1999). Prevention of high-risk behaviors in adolescent women. *Journal of Adolescent Health, 25*(2), 109-119.

[24] Sarigiani, P. A., Ryan, L., & Petersen, A. C. (1999). Prevention of high-risk behaviors in adolescent women. *Journal of Adolescent Health, 25*(2), 109-119.

[25] Hallfors, D., & Van Dorn, R. A. (2002). Strengthening the role of two key institutions in the prevention of adolescent substance abuse. *Journal of Adolescent Health, 30*(1), 17-28.

[26] National Center for Health Statistics. (2001). *Healthy people 2000 final review.* Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.

[27] National Center for Health Statistics. (2001). *Healthy people 2000 final review.* Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.

[28] Ellen, J. M., Franzgrote, M., Irwin, C. E., Millstein, S. G. (1998). Primary care physicians' screening of adolescent patients: A survey of California physicians. *Journal of Adolescent Health, 22*(6), 433-438.

[29] Hallfors, D., & Van Dorn, R. A. (2002). Strengthening the role of two key institutions in the prevention of adolescent substance abuse. *Journal of Adolescent Health, 30*(1), 17-28; Most doctors don't counsel teens about smoking. (1999). *Alcoholism and Drug Abuse Weekly, 11*(44), 8.

[30] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000). *Missed opportunity: National survey of primary care physicians and patients on substance abuse.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[31] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000). *Missed opportunity: National survey of primary care physicians and patients on substance abuse.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[32] The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000). *Missed opportunity: National survey of primary care physicians and patients on substance abuse.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

[33] Hallfors, D., & Van Dorn, R. A. (2002). Strengthening the role of two key institutions in the prevention of adolescent substance abuse. *Journal of Adolescent Health, 30*(1), 17-28.

[34] Hallfors, D., & Van Dorn, R. A. (2002). Strengthening the role of two key institutions in the prevention of adolescent substance abuse. *Journal of Adolescent Health, 30*(1), 17-28.

[35] Bastiaens, L., Francis, G. and Lewis, K. (2000). The RAFFT as a screening tool for adolescent substance use disorders. *American Journal on Addictions, 9*(1), 10-16.

[36] Knight, J. R., Sherritt, L., Shrier, L. A., Harris, S. K., & Chang, G. (2002). Validity of the CRAFFT substance abuse screening test among adolescent clinic patients. *Archives of Pediatrics and Adolescent Medicine, 156*(6), 607-614.

[37] Schwartz, R. H., & Wirtz, P. W. (1990). Potential substance abuse. Detection among adolescent patients: Using the Drug and Alcohol Problem (DAP) Quick Screen, a 30-item questionnaire. *Clinical Pediatrics, 29*(1), 38-43.

[38] Partnership for a Drug-Free America. (2002). *Wendy print advertisement.* [On-line]. Retrieved November 11, 2002 from the World Wide Web: http://www.drugfreeamerica.org.

[39] Farrelly, M. C., Healton, C. G., Davis, K. C., Messeri, P., Hersey, J. C., & Haviland, M. L. (2002). Getting to the truth: Evaluating national tobacco countermarketing campaigns. *American Journal of Public Health, 92*(6), 901-907; Office of National Drug Control Policy & National Youth Anti-Drug Media Campaign. (2002). *Investing in our nation's youth: The National Youth Anti-Drug Media Campaign surpasses expectations in phase II.* [On-line]. Retrieved June 11, 2002 from the World Wide Web: http://www.mediacampaign.org.

[40] Join Together Online. (2002). Walters says anti-drug ad campaign a failure. [On-line]. Retrieved June 11, 2002 from the World Wide Web: http://www.jointogether.org; Office of National Drug Control Policy & National Youth Anti-Drug Media Campaign. (2002). Investing in our nation's youth: The National Youth Anti-Drug Media Campaign surpasses expectations in phase II. [On-line]. Retrieved June 11, 2002 from the World Wide Web: http://www.mediacampaign.org.

[41] Block, L. G., Morwitz, V. G., Putsis, W. P., & Sen, S. K. (2002). Assessing the impact of antidrug advertising on adolescent drug consumption: Results from a behavioral economic model. *American Journal of Public Health, 92*(8), 1346-1351.

[42] Farrelly, M. C., Healton, C. G., Davis, K. C., Messeri, P., Hersey, J. C., & Haviland, M. L. (2002). Getting to the truth: Evaluating national tobacco countermarketing campaigns. *American Journal of Public Health, 92*(6), 901-907.

[43] Farrelly, M. C., Healton, C. G., Davis, K. C., Messeri, P., Hersey, J. C., & Haviland, M. L. (2002). Getting to the truth: Evaluating national tobacco countermarketing campaigns. *American Journal of Public Health, 92*(6), 901-907.

[44] Farrelly, M. C., Healton, C. G., Davis, K. C., Messeri, P., Hersey, J. C., & Haviland, M. L. (2002). Getting to the truth: Evaluating national tobacco countermarketing campaigns. *American Journal of Public Health, 92*(6), 901-907.

Chapter X
Notes

[1] Office of Communication, Centers for Disease Control and Prevention. (1997). *Facts about cigarette mortality.* [On-line]. Retrieved May 14, 2002 from the World Wide Web: http://www.cdc.gov/.

[2] Gillespie, M. (1999). *Majority of smokers want to quit, consider themselves addicted.* [On-line]. Retrieved January 29, 2002 from the World Wide Web: http://www.gallup.com/.

[3] Centers for Disease Control and Prevention. (2001). CDC surveillance summaries: Youth tobacco surveillance: United States, 2000. *Morbidity and Mortality Weekly Report, 50*(SS-4).

[4] Patton, G. C., Carlin, J. B., Coffey, C., Wolfe, R., Hibbert, M., & Bowes, G. (1998). The course of early smoking: A population-based cohort study over three years. *Addiction, 93*(8), 1251-1260; Wagner, E. F., & Atkins, J. H. (2000). Smoking among teenage girls. *Journal of Child and Adolescent Substance Abuse, 9*(4), 93-110; Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[5] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[6] Ellickson, P. L., Tucker, J. S., & Klein, D. J. (2001). Sex differences in predictors of adolescent smoking cessation. *Health Psychology, 20*(3), 186-195.

[7] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[8] Office of Applied Studies. (2002). *Results from the 2001 National Household Survey on Drug Abuse: Volume I: Summary of national findings* (DHHS Pub. No. (SMA) 02-3758). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[9] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[10] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[11] Gillespie, M. (1999). *Majority of smokers want to quit, consider themselves addicted.* [On-line]. Retrieved January 29, 2002 from the World Wide Web: http://www.gallup.com/.

[12] Centers for Disease Control and Prevention. (2001). CDC surveillance summaries: Youth tobacco surveillance: United States, 2000. *Morbidity and Mortality Weekly Report, 50*(SS-4).

[13] Centers for Disease Control and Prevention. (2001). CDC surveillance summaries: Youth tobacco surveillance: United States, 2000. *Morbidity and Mortality Weekly Report, 50*(SS-4).

[14] Patton, G. C., Carlin, J. B., Coffey, C., Wolfe, R., Hibbert, M., & Bowes, G. (1998). The course of early smoking: A population-based cohort study over three years. *Addiction, 93*(8), 1251-1260; Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office; Wagner, E. F., & Atkins, J. H. (2000). Smoking among teenage girls. *Journal of Child and Adolescent Substance Abuse, 9*(4), 93-110.

[15] Patton, G. C., Carlin, J. B., Coffey, C., Wolfe, R., Hibbert, M., & Bowes, G. (1998). The course of early smoking: A population-based cohort study over three years. *Addiction, 93*(8), 1251-1260.

[16] Perkins, K. A. (2001). Smoking cessation in women: Special considerations. *CNS Drugs, 15*(5), 391-411; Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[17] Centers for Disease Control and Prevention. (2002). Cigarette smoking among adults: United States, 2000. *Morbidity and Mortality Weekly Report, 51*(29).

[18] Samet, J. M., & Yoon, S. Y. (2001). *Women and the tobacco epidemic: Challenges for the 21st century.* Geneva, Switzerland: World Health Organization, Institute for Global Tobacco Control, Johns Hopkins School of Public Health.

[19] Perkins, K. A. (2001). Smoking cessation in women: Special considerations. *CNS Drugs, 15*(5), 391-411.

[20] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[21] Ellickson, P. L., Tucker, J. S., & Klein, D. J. (2001). Sex differences in predictors of adolescent smoking cessation. *Health Psychology, 20*(3), 186-195.

[22] Perkins, K. A. (1995). Individual variability in responses to nicotine. *Behavior Genetics, 25*(2), 119-132.

[23] Perkins, K. A. (1995). Individual variability in responses to nicotine. *Behavior Genetics, 25*(2), 119-132.

[24] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[25] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[26] Ellickson, P. L., Tucker, J. S., & Klein, D. J. (2001). Sex differences in predictors of adolescent smoking cessation. *Health Psychology, 20*(3), 186-195; Woodby, L. L., Windsor, R. A., Snyder, S. W., Kohler, C. L., & Diclemente, C. C. (1999). Predictors of smoking cessation during pregnancy. *Addiction, 94*(2), 283-292.

[27] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[28] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[29] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[30] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[31] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[32] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[33] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[34] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[35] Ellickson, P. L., Tucker, J. S., & Klein, D. J. (2001). Sex differences in predictors of adolescent smoking cessation. *Health Psychology, 20*(3), 186-195.

[36] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[37] Samet, J. M., & Yoon, S. Y. (2001). *Women and the tobacco epidemic: Challenges for the 21st century.* Geneva, Switzerland: World Health Organization, Institute for Global Tobacco Control, Johns Hopkins School of Public Health.

[38] Perkins, K. A. (2001). Smoking cessation in women: Special considerations. *CNS Drugs, 15*(5), 391-411; Samet, J. M., & Yoon, S. Y. (2001). *Women and the tobacco epidemic: Challenges for the 21st century.* Geneva, Switzerland: World Health Organization, Institute for Global Tobacco Control, Johns Hopkins School of Public Health.

[39] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[40] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[41] Perkins, K. A. (2001). Smoking cessation in women: Special considerations. *CNS Drugs, 15*(5), 391-411; Samet, J. M., & Yoon, S. Y. (2001). *Women and the tobacco epidemic: Challenges for the 21st century.* Geneva, Switzerland: World Health Organization, Institute for Global Tobacco Control, Johns Hopkins School of Public Health.

[42] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[43] Perkins, K. A. (2001). Smoking cessation in women: Special considerations. *CNS Drugs, 15*(5), 391-411; Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[44] Wagner, E. F., & Atkins, J. H. (2000). Smoking among teenage girls. *Journal of Child and Adolescent Substance Abuse, 9*(4), 93-110.

[45] Perkins, K. A. (2001). Smoking cessation in women: Special considerations. *CNS Drugs, 15*(5), 391-411; Samet, J. M., & Yoon, S. Y. (2001). *Women and the tobacco epidemic: Challenges for the 21st century.* Geneva, Switzerland: World Health Organization, Institute for Global Tobacco Control, Johns Hopkins School of Public Health.

[46] Perkins, K. A., Marcus, M. D., Levine, M. D., D'Amico, D., Miller, A., Broge, M., et al. (2001). Cognitive-behavioral therapy to reduce weight concerns improves smoking cessation outcome in weight-concerned women. *Journal of Consulting and Clinical Psychology, 69*(4), 604-613.

[47] Perkins, K. A., Marcus, M. D., Levine, M. D., D'Amico, D., Miller, A., Broge, M., et al. (2001). Cognitive-behavioral therapy to reduce weight concerns improves smoking cessation outcome in weight-concerned women. *Journal of Consulting and Clinical Psychology, 69*(4), 604-613.

[48] Perkins, K. A. (2001). Smoking cessation in women: Special considerations. *CNS Drugs, 15*(5), 391-411; Samet, J. M., & Yoon, S. Y. (2001). *Women and the tobacco epidemic: Challenges for the 21st century.* Geneva, Switzerland: World Health Organization, Institute for Global Tobacco Control, Johns Hopkins School of Public Health; Wagner, E. F., & Atkins, J. H. (2000). Smoking among teenage girls. *Journal of Child and Adolescent Substance Abuse, 9*(4), 93-110.

[49] Wagner, E. F., & Atkins, J. H. (2000). Smoking among teenage girls. *Journal of Child and Adolescent Substance Abuse, 9*(4), 93-110.

[50] Zhu, S.-H., Sun, J., Billings, S. C., Choi, W. S., Malarcher, A. (1999). Predictors of Smoking Cessation in U.S. Adolescents. *American Journal of Preventive Medicine, 16*(3), 202-207.

[51] Lando, H. A., & Gritz, E. R. (1996). Smoking cessation techniques. *Journal of the American Medical Womens Association, 51*(1-2), 31-34.

[52] Lando, H. A., & Gritz, E. R. (1996). Smoking cessation techniques. *Journal of the American Medical Womens Association, 51*(1-2), 31-34; Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[53] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[54] Fiore, M. C., Bailey, W. C., Cohen S. J., Dorfman, S. F., Goldstein, M. G., Gritz, E. R., et al. (2000). *Treating tobacco use and dependence: Clinical practice guideline* (GPO Item No. 0491-B-17). Washington, DC: U.S. Government Printing Office; Kendrick, J. S., & Merritt, R. K. (1996). Women and smoking: An update for the 1990s. *American Journal of Obstetrics and Gynecology, 175*(3, Pt. 2), 528-535.

[55] Fiore, M. C., Bailey, W. C., Cohen S. J., Dorfman, S. F., Goldstein, M. G., Gritz, E. R., et al. (2000). *Treating tobacco use and dependence: Clinical practice guideline* (GPO Item No. 0491-B-17). Washington, DC: U.S. Government Printing Office.

[56] Fiore, M. C., Bailey, W. C., Cohen S. J., Dorfman, S. F., Goldstein, M. G., Gritz, E. R., et al. (2000). *Treating tobacco use and dependence: Clinical practice guideline* (GPO Item No. 0491-B-17). Washington, DC: U.S. Government Printing Office.

[57] Fiore, M. C., Bailey, W. C., Cohen S. J., Dorfman, S. F., Goldstein, M. G., Gritz, E. R., et al. (2000). *Treating tobacco use and dependence: Clinical practice guideline* (GPO Item No. 0491-B-17). Washington, DC: U.S. Government Printing Office.

[58] Seltzer, V. (2000). Smoking and women's health. *International Journal of Gynecology and Obstetrics, 70*(1), 159-163.

[59] Seltzer, V. (2000). Smoking and women's health. *International Journal of Gynecology and Obstetrics, 70*(1), 159-163.

[60] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[61] Fiore, M. C., Bailey, W. C., Cohen S. J., Dorfman, S. F., Goldstein, M. G., Gritz, E. R., et al. (2000). *Treating tobacco use and dependence: Clinical practice guideline* (GPO Item No. 0491-B-17). Washington, DC: U.S. Government Printing Office; Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[62] Sarigiani, P. A., Ryan, L., & Petersen, A. C. (1999). Prevention of high-risk behaviors in adolescent women. *Journal of Adolescent Health, 25*(2), 109-119.

[63] Most doctors don't counsel teens about smoking. (1999). *Alcoholism and Drug Abuse Weekly, 11*(44), 8.

[64] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[65] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[66] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[67] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[68] Sussman, S., Dent, C. W., Nezami, E., Stacy, A. W., Burton, D., & Flay, B. R. (1998). Reasons for quitting and smoking temptation among adolescent smokers: Gender differences. *Substance Use and Misuse, 33*(14), 2703-2720.

[69] Dino, G., Horn, K., Goldcamp, J., Fernandes, A., Kalsekar, I., & Massey, C. (2001). A 2-year efficacy study of Not On Tobacco in Florida: An overview of program successes in changing teen smoking behavior. *Preventive Medicine, 33*(6), 600-605; Dino, G. A., Horn, K. A., Goldcamp, J., Maniar, S. D., Fernandes, A., & Massey, C. J. (2001). Statewide demonstration of Not On Tobacco: A gender-sensitive teen smoking cessation program. *Journal of School Nursing, 17*(2), 90-97.

[70] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[71] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[72] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[73] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office; Secker-Walker, R. H., Flynn, B. S., Solomon, L. J., Skelly, J. M., Dorwaldt, A. L., & Ashikaga, T. (2000). Helping women quit smoking: Results of a community intervention program. *American Journal of Public Health, 90*(6), 940-946.

[74] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

[75] Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office; Secker-Walker, R. H., Flynn, B. S., Solomon, L. J., Skelly, J. M., Dorwaldt, A. L., & Ashikaga, T. (2000). Helping women quit smoking: Results of a community intervention program. *American Journal of Public Health, 90*(6), 940-946.

[76] Secker-Walker, R. H., Flynn, B. S., Solomon, L. J., Skelly, J. M., Dorwaldt, A. L., & Ashikaga, T. (2000). Helping women quit smoking: Results of a community intervention program. *American Journal of Public Health, 90*(6), 940-946.

[77] Secker-Walker, R. H., Flynn, B. S., Solomon, L. J., Skelly, J. M., Dorwaldt, A. L., & Ashikaga, T. (2000). Helping women quit smoking: Results of a community intervention program. *American Journal of Public Health, 90*(6), 940-946.

[78] Secker-Walker, R. H., Flynn, B. S., Solomon, L. J., Skelly, J. M., Dorwaldt, A. L., & Ashikaga, T. (2000). Helping women quit smoking: Results of a community intervention program. *American Journal of Public Health, 90*(6), 940-946.

[79] Secker-Walker, R. H., Flynn, B. S., Solomon, L. J., Skelly, J. M., Dorwaldt, A. L., & Ashikaga, T. (2000). Helping women quit smoking: Results of a community intervention program. *American Journal of Public Health, 90*(6), 940-946.

[80] Secker-Walker, R. H., Flynn, B. S., Solomon, L. J., Skelly, J. M., Dorwaldt, A. L., & Ashikaga, T. (2000). Helping women quit smoking: Results of a community intervention program. *American Journal of Public Health, 90*(6), 940-946.

[81] Secker-Walker, R. H., Flynn, B. S., Solomon, L. J., Skelly, J. M., Dorwaldt, A. L., & Ashikaga, T. (2000). Helping women quit smoking: Results of a community intervention program. *American Journal of Public Health, 90*(6), 940-946.

[82] Bride, B. E. (2001). Single-gender treatment of substance abuse: Effect on treatment retention and completion. *Social Work Research, 25*(4), 223-231; Mitchell, J. L. (1995). *Pregnant, substance-using women: Treatment Improvement Protocol (TIP) series 2* (DHHS Pub. No. (SMA) 95-3056). Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment; National Institute on Drug Abuse. (2002). *Overview of NIDA research on women's health and gender differences.* [On-line]. Retrieved March 17, 2002 from the World Wide Web: http://165.112.78.61.

[83] Mitchell, J. L. (1995). *Pregnant, substance-using women: Treatment Improvement Protocol (TIP) series 2* (DHHS Pub. No. (SMA) 95-3056). Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment.

[84] Howell, E. M., Heiser, N., & Harrington, M. (1999). A review of recent findings on substance abuse treatment for pregnant women. *Journal of Substance Abuse Treatment, 16*(3), 195-219.

[85] Howell, E. M., Heiser, N., & Harrington, M. (1999). A review of recent findings on substance abuse treatment for pregnant women. *Journal of Substance Abuse Treatment, 16*(3), 195-219.

[86] Bride, B. E. (2001). Single-gender treatment of substance abuse: Effect on treatment retention and completion. *Social Work Research, 25*(4), 223-231; Howell, E. M., Heiser, N., & Harrington, M. (1999). A review of recent findings on substance abuse treatment for pregnant women. *Journal of Substance Abuse Treatment, 16*(3), 195-219.

[87] Howell, E. M., Heiser, N., & Harrington, M. (1999). A review of recent findings on substance abuse treatment for pregnant women. *Journal of Substance Abuse Treatment, 16*(3), 195-219.

[88] Alcohol and Drug Problems Association of North America. (1999). *Gender specific adolescent alcohol and drug abuse prevention and treatment: ADPA policy paper #3.* St. Charles, MO: Alcohol and Drug Problems Association of North America.

[89] Gfroerer, J. C., & Epstein, J. F. (1999). Marijuana initiates and their impact on future drug abuse treatment need. *Drug and Alcohol Dependence, 54*(3), 229-237.

[90] Guthrie, B. J., Rotheram, M. J., Genero, N., Amaro, H., Chesney-Lind, M., Flinchbaugh, L. J., et al. (2001). *A guide to understanding female adolescents' substance abuse: Gender and ethnic considerations for prevention and treatment policy* (DHHS Pub. No. (SMA) 00-3309). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention; National Institute on Drug Abuse. (2002). *Advances in research on women's health and gender differences.* [On-line]. Retrieved March 17, 2002 from the World Wide Web: http://165.112.78.61.

[91] Ellis, R. A., O'Hara, M., & Sowers, K. M. (2000). Profile-based intervention: Developing gender-sensitive treatment for adolescent substance abusers. *Research on Social Work Practice, 10*(3), 327-347.

[92] Guthrie, B. J., Rotheram, M. J., Genero, N., Amaro, H., Chesney-Lind, M., Flinchbaugh, L. J., et al. (2001). *A guide to understanding female adolescents' substance abuse: Gender and ethnic considerations for prevention and treatment policy* (DHHS Pub. No. (SMA) 00-3309). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

[93] Alcohol and Drug Problems Association of North America. (1999). *Gender specific adolescent alcohol and drug abuse prevention and treatment: ADPA policy paper #3.* St. Charles, MO: Alcohol and Drug Problems Association of North America; Mitchell, J. L. (1995). *Pregnant, substance-using women: Treatment Improvement Protocol (TIP) series 2* (DHHS Pub. No. (SMA) 95-3056). Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment.

[94] Greenfield, S. F. (2002). Women and alcohol use disorders. *Harvard Review of Psychiatry, 10*(2), 76-85.

[95] Office of Applied Studies. (2002). *Results from the 2001 National Household Survey on Drug Abuse: Volume I: Summary of national findings* (DHHS Pub. No. (SMA) 02-3758). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[96] Office of Applied Studies. (2002). *Results from the 2001 National Household Survey on Drug Abuse: Volume I: Summary of national findings* (DHHS Pub. No. (SMA) 02-3758). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[97] Office of Applied Studies. (2002). *Results from the 2001 National Household Survey on Drug Abuse: Volume I: Summary of national findings* (DHHS Pub. No. (SMA) 02-3758). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

[98] Stocker, S. (1998) Men and women in drug abuse treatment relapse at different rates and for different reasons. *NIDA Notes, 13*(4), 5-6.

[99] Center for Substance Abuse Treatment. (2000). *Substance abuse in brief: Successful treatment for adolescents: Multiple needs require diverse & special services* [Pamphlet]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment.

[100] Winters, K. C. (1999). Treating adolescents with substance use disorders: An overview of practice issues and treatment outcome. *Substance Abuse, 20*(4), 203-225.

[101] Winters, K. C. (1999). Treating adolescents with substance use disorders: An overview of practice issues and treatment outcome. *Substance Abuse, 20*(4), 203-225.

[102] Winters, K. C. (1999). Treating adolescents with substance use disorders: An overview of practice issues and treatment outcome. *Substance Abuse, 20*(4), 203-225.

[103] Winters, K. C. (1999). Treating adolescents with substance use disorders: An overview of practice issues and treatment outcome. *Substance Abuse, 20*(4), 203-225.

[104] Betty Ford Center. (2002). *About Betty Ford Center: A brief history of the Betty Ford Center.* [On-line]. Retrieved December 6, 2002 from the World Wide Web: http://www.bettyfordcenter.org.

[105] Betty Ford Center. (2002). *About Betty Ford Center: A brief history of the Betty Ford Center.* [On-line]. Retrieved December 6, 2002 from the World Wide Web: http://www.bettyfordcenter.org; Betty Ford Center. (2002). *Betty Ford Center programs: Specialty programs.* [On-line]. Retrieved December 6, 2002 from the World Wide Web: http://www.bettyfordcenter.org.

[106] New Standards. (1993). *Betty Ford Center Treatment Outcomes November 1993*. St. Paul, MN: New Standards.

[107] Waite-O'Brien, N. (personal communication, 1996).

Appendix A

Survey Methodology

CASA's two-part national survey, *The Formative Years: Pathways to Substance Abuse Among Girls and Young Women Ages 8-22*, was designed by CASA and conducted by the Survey Research Center (SRC) of the University of Maryland at College Park.

The study involved a national random digit dial (RDD) telephone survey of pre-adolescent and adolescent girls and their parents as well as young women. The data were collected at two points in time. The first set of interviews took place from April through June of 2001 and the second set of interviews took place from October through December of 2001.

The development of the telephone survey instruments involved multiple pretesting methods including focus groups, cognitive interviews and conventional pretest telephone interviews. The final instruments were submitted both to CASA's and the University of Maryland's Institutional Review Boards (IRBs) for approval prior to data collection.

Instrument Development and Data Collection

The study consisted of the following components:

- Telephone calls to recruit participants for the instrument development activities. This included recruitment for focus groups, cognitive interviews and telephone pretest interviews.

- Separate focus groups with young women, adolescent girls and their parents.

- Cognitive interviews conducted with girls and young women to assess their understanding and interpretation of the questionnaire items.

- A conventional telephone pretest with approximately 50 respondents.

- Time one telephone interviews with 1,220 girls and young women and 782 parents of those respondents who were under age 18. The average interview length was approximately 20 minutes.

- Time two telephone interviews to follow up with respondents from time one. The objective was to complete 1,000 interviews with girls and young women.

Instrument Design

Before conducting the telephone survey, the Survey Research Center, under CASA's supervision, conducted five focus groups to help identify key areas of interest for the survey. Once items for the survey instrument were developed, SRC conducted 20 cognitive interviews in which respondents were asked to think aloud while answering the survey questions. This procedure helps verify that respondents were able to accurately interpret the survey questions. In cases where respondents had difficulty with an item, the cognitive interview gave some indication as to what the source of that difficulty might be and modifications to the item were made.

The final phase of questionnaire development was a conventional pretest consisting of 50 completed interviews. Conventional pretest interviews were administered by telephone in the exact manner of a regular interview, but were followed by a short debriefing session in which the interviewers reported on and discussed the respondents' reactions to the survey as a whole and to particular questions. This information was used to further refine the questionnaire and produce the final instrument for data collection.

Sampling and Data Collection

Prior to conducting the survey, advance letters were sent to all potential respondents for whom addresses could be obtained explaining the nature and importance of the study. In the letter, a toll-free number was provided which potential respondent could call to have any questions about the study answered.

Time one telephone interviews were administered to a national sample of 1,220 girls and young women, divided among four age groups: fifth graders, eighth graders, seniors in high school and seniors in college. Interviews also were conducted with young women of college senior age who did not attend college. Time two telephone interviews were administered to these same respondents six months later after they had made the transition to the following academic year. At time two, girls and young women were now: sixth graders, ninth graders, freshmen in college (or the non-college attending equivalent in age) and in their first year post-college (or the noncollege attending equivalent in age).

The sample was selected proportional to the target female population in urban and rural areas who attend private, parochial, public, co-ed or non co-ed schools, or who do not attend school at all (for the older cohorts).

As is standard practice for random digit dial (RDD) telephone surveys, adult respondents (over age 18), parents of minors and minors themselves were required to provide oral consent before participating in the telephone survey. Informed consent was provided at both data collection time points.

When more than several qualified respondents resided within a sample household, one respondent was randomly selected for interview.

Short interviews with parents of minors were conducted prior to interviewing the child in order to obtain some demographic and substance use information. These interviews also allowed the interviewers to establish rapport and provide to parents information about the survey as a prelude to requesting parental consent to interview the child. In those cases where parental consent was obtained, the child was separately asked to provide her assent to participating in the interview.

At the end of the time one interview, respondents were informed that they would be recontacted in six months for a second telephone interview. Respondents were asked to provide a name and telephone number of someone who would know their whereabouts should they move between the two interviews.

Confidentiality

In addition to the usual protection of respondents' confidentiality, precautions also were taken to ensure that answers provided by minors were not made known to their parents.

All telephone data were collected by computer-assisted telephone interviews (CATI). In this procedure, responses to each question were entered directly to a Novell file server in "real time," as interviewers received answers from respondents. The interviewers as well as all other SRC staff signed agreements to protect the confidentiality of survey data and respondent identification. Only staff involved in data cleaning had access to the data. Directories and files were password protected. At no time was any information provided to anyone not directly involved in the research that would permit linkage of personal or household identifiers to the data.

Interview Quality Assurance

The interviewing staff consisted of current SRC interviewers and interviewers recruited specifically for the study. All interviews were conducted by female interviewers who were highly trained in general interview procedures and interview procedures specific to the study.

Each newly hired interviewer completed twelve hours of intensive training on general interviewing techniques and four hours of training on the CATI system. In addition to this training, interviewers were required to attend a specific training session for the study. A large part of this training consisted of question-by-question instructions on the procedures for properly conducting the interview, handling respondent questions or concerns and providing information to respondents about the purpose of the study or the planned use of the data.

SRC used a number of operational procedures to ensure data quality and high response rates. SRC made up to 20 callbacks on all sample telephone numbers. Interviewers were monitored both visually and via audio during every interviewing shift. Supervisors listened to the interviewer and respondent and viewed the interviewers' entry of the data. Supervisors also behavior-coded interviewer/respondent interactions noting such behaviors as deviation from exact wording or whether respondent problems or questions were handled as specified during interviewer training. Whenever deviations from required procedures were noted, feedback or additional training was provided to interviewers, as deemed necessary by the supervisors. Automated reports were generated twice daily to track the production and quality of data collection during both time points.

Sample Weight

The sample design produced an equal probability sample of all telephone numbers in the United States. Within each sample, household respondents were selected from among all eligible respondents. Respondents within households were selected using the next birthday method.

To correct for differing probabilities of selection, weights were computed based on the number of different telephone lines in the household and the number of eligible household residents. The weight for telephone lines is the inverse of the number of telephone lines. The household weight for respondents is the number of eligible household members. The objective of these weights is to produce unbiased estimates by correcting for differing probabilities of selection at the household and respondent levels. Because the survey sample was selected using what is essentially a simple random sample, the standard errors that are routinely produced by statistical analysis packages will accurately reflect the levels of precision for each survey question, taking into account the number of respondents for that question.

The Final Sample

At the first interview, a total of 1,220 young female respondents were interviewed: 296 fifth graders, 352 eighth graders, 321 high school seniors and 251 young women ages 21 to 22 (age of senior year in college). Eighty-four percent of the sample was white, 6.7 percent Hispanic, 5.3 percent black, 1.3 percent Asian and 2.3 percent of another racial/ethnic background. Respondents lived in various regions of the country: 24.1 percent were from the Northeast, 40.9 percent from the Midwest, 25.7 percent from the South and 9.3 percent from the West. Second interviews were completed with a total of 962 (79 percent) of the original respondents: 251 sixth graders, 302 ninth graders, 243 post-high school students and 166 young women ages 22 to 23 (post college age). The margin of sampling error for the teen survey is +/- 3 percent at a 95 percent confidence level.

Appendix B
Survey Instrument

Q1 Determines whether respondent is in school or not?
(1) In school
(2) Not in school **(skip to Q2a)**

Q1a Do you attend a:
(1) Public/state school
(2) Private religious school
(3) Private school that's not religious
(4) Some other kind of school **(Specify)**
(8) DON'T KNOW
(9) REFUSED

Q1b Are you currently: **(Cohort 4 only)**
(1) In high school or a G.E.D. Program
(2) In college part-time, or
(3) In college full-time?
(4) Other **(Specify: "What kind of school are you attending?")**
(8) DON'T KNOW
(9) REFUSED

Q1c Is your school girls (women) only?
(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q2a How confident are you that information on drugs from friends or other people your age is accurate? Would you say you are:
(1) Very confident
(2) Somewhat confident
(3) Not confident
(8) DON'T KNOW
(9) REFUSED

Q2b How confident are you that information on drugs from parents or other adult relatives is accurate? Would you say you are:
(1) Very confident
(2) Somewhat confident
(3) Not confident
(8) DON'T KNOW
(9) REFUSED

Q2c How confident are you that information on drugs from classes in school is accurate? **[Q2c ask only if Q1=1 "-yes"]** Would you say you are:

(1) Very confident
(2) Somewhat confident
(3) Not confident
(8) DON'T KNOW
(9) REFUSED

Q3 Which of the following sources would you be most comfortable going to, to get information on drugs or drug use:

(1) Friends or other people your age
(2) Parents or other adult relatives
(3) Classes in school **[ask only if respondent in school]**
(4) The internet?
(8) DON'T KNOW
(9) REFUSED

newq1 Now I'd like to ask some questions about how you feel toward substances like caffeine, alcohol and drugs. What is your general feeling about drinking coffee with caffeine? Do you think that it is:

(1) Very good,
(2) Good,
(3) Neither good or bad,
(4) Bad, or
(5) Very bad?
(8) DK
(9) REF

newq2 At what age do you think it is okay to drink coffee with caffeine?

(00) ANY AGE IS OK
(05-25)
(26) 26 OR OLDER
(27) NEVER
(88) DK
(99) REF

newq3 How likely do you think it is that a person your age who drinks coffee with caffeine will eventually smoke cigarettes?

(1) Very likely,
(2) Likely,
(3) Unlikely, or
(4) Very unlikely?
(8) DK
(9) REF

newq4 Do you ever drink coffee with caffeine?

(1) YES
(2) NO **[Skip to Q4]**
(8) DK **Skip to Q4]**
(9) REF **[Skip to Q4]**

newq5 How often do you drink coffee with caffeine? Is it:

- (1) Several times a day,
- (2) Once a day,
- (3) Once or twice a week, or
- (4) Less than once a week?
- (8) DK
- (9) REF

Q4 What is your general feeling about drinking beer, wine or other alcohol? Do you think that drinking alcohol is: **[ask only cohort 1,2]**

- (1) Very good
- (2) Good
- (3) Neither good or bad
- (4) Bad
- (5) Very bad
- (8) DON'T KNOW
- (9) REFUSED

Q5 At what age do you think it is okay to drink alcohol?

- (00) Any age
- (5-25)
- (26) 26 or older
- (27) Never okay
- (88) DON'T KNOW
- (99) REFUSED

Q6 How likely do you think it is that a person your age who drinks alcohol will eventually use (*cohort 4*- or has used) weed, pot or marijuana?

- (1) Very likely
- (2) Likely
- (3) Unlikely
- (4) Very unlikely
- (8) DON'T KNOW
- (9) REFUSED

Q7 How likely do you think it is that a person your age who smokes cigarettes will eventually use (*cohort 4*- or has used) weed, pot, or marijuana?

- (1) Very likely
- (2) Likely
- (3) Unlikely
- (4) Very unlikely
- (8) DON'T KNOW
- (9) REFUSED

Q8 How likely do you think it is that a person your age who smokes marijuana will eventually use (*cohort 4*- or has used) other illegal drugs?

- (1) Very likely
- (2) Likely
- (3) Unlikely
- (4) Very unlikely
- (8) DON'T KNOW
- (9) REFUSED

Q9a Now please tell me how much you agree or disagree with each of the following statements about people your age smoking cigarettes. **[Q9a ask only cohort 1,2,3]** People your age smoke cigarettes as a way to disobey adults. Do you:

- (1) Strongly agree
- (2) Agree
- (3) Disagree
- (4) Strongly disagree
- (8) DON'T KNOW
- (9) REFUSED

Q9b People your age who smoke look more (grown up/mature) than people your age who don't smoke. **[Q9b ask only cohort 1,2,3]** Do you:

- (1) Strongly agree
- (2) Agree
- (3) Disagree
- (4) Strongly disagree
- (8) DON'T KNOW
- (9) REFUSED

Q9c It is easy to get addicted to smoking cigarettes. Do you:

- (1) Strongly agree
- (2) Agree
- (3) Disagree
- (4) Strongly disagree
- (8) DON'T KNOW
- (9) REFUSED

Q9d Smoking makes people your age look cool. **[Q9d ask only cohort 1,2,3]** Do you:

- (1) Strongly agree
- (2) Agree
- (3) Disagree
- (4) Strongly disagree
- (8) DON'T KNOW
- (9) REFUSED

Q9e Smoking helps people your age relax. Do you:

- (1) Strongly agree
- (2) Agree
- (3) Disagree
- (4) Strongly disagree
- (8) DON'T KNOW
- (9) REFUSED

Q9f People your age who smoke do as well in school as those who don't smoke. **[Q9f ask only if Q1= "1-yes"]** Do you:

(1) Strongly agree
(2) Agree
(3) Disagree
(4) Strongly disagree
(8) DON'T KNOW
(9) REFUSED

Q10a The next statements are about people your age drinking beer, wine and other alcohol. **[Q10a ask only cohort 1,2,3]** People your age drink alcohol as a way to disobey adults. Do you:

(1) Strongly agree
(2) Agree
(3) Disagree
(4) Strongly disagree
(8) DON'T KNOW
(9) REFUSED

Q10b People your age who drink alcohol look more (grown up/mature) than those who don't drink alcohol. **[Q10b ask only cohort 1,2,3]** Do you:

(1) Strongly agree
(2) Agree
(3) Disagree
(4) Strongly disagree
(8) DON'T KNOW
(9) REFUSED

Q10c It is easy to get addicted to alcohol. Do you:

(1) Strongly agree
(2) Agree
(3) Disagree
(4) Strongly disagree
(8) DON'T KNOW
(9) REFUSED

Q10d Drinking alcohol makes people your age look cool. Do you:
[Q10d ask only cohort 1,2,3].

(1) Strongly agree
(2) Agree
(3) Disagree
(4) Strongly disagree
(8) DON'T KNOW
(9) REFUSED

Q10e Drinking alcohol helps people your age deal with being bored. Do you:

(1) Strongly agree
(2) Agree
(3) Disagree
(4) Strongly disagree
(8) DON'T KNOW
(9) REFUSED

Q10f People your age who drink alcohol do as well in school as those who don't drink. **[Q10f ask only if Q1= "1-yes"]** Do you:

(1) Strongly agree
(2) Agree
(3) Disagree
(4) Strongly disagree
(8) DON'T KNOW
(9) REFUSED

Q10g Drinking alcohol helps people your age deal with being sad or depressed. Do you:

(1) Strongly agree
(2) Agree
(3) Disagree
(4) Strongly disagree
(8) DON'T KNOW
(9) REFUSED

Q10h Getting drunk gives people your age an excuse for doing things they wouldn't usually do. Do you:

(1) Strongly agree
(2) Agree
(3) Disagree
(4) Strongly disagree
(8) DON'T KNOW
(9) REFUSED

Q11 Now I would like to ask you some questions about your relationships with your friends. Would you say you are:

(1) Very popular *(cohorts 1,2,3)* / very well liked *(cohort 4)*
(2) Somewhat popular *(cohorts 1,2,3)*/ somewhat well liked *(cohort 4)*
(3) Not popular *(cohorts 1,2,3)*/ not well-liked *(cohort 4)*
(8) DON'T KNOW
(9) REFUSED
[cohort 4 skips to Q15]

Q12 Have you ever been pressured by other people your age to smoke?

(1) YES
(2) NO
(8) DON'T KNOW
(9) REFUSED

Q13 Have you ever been pressured by other people your age to drink?

(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q14 Have you ever been pressured by other people your age to use illegal drugs or drugs prescribed for someone else?

(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q15 How many of your friends currently smoke cigarettes?

(1) All
(2) Most
(3) Some
(4) Few
(5) None
(8) DON'T KNOW
(9) REFUSED

Q16 How many of your friends use weed, pot or marijuana?

(1) All
(2) Most
(3) Some
(4) Few
(5) None
(8) DON'T KNOW
(9) REFUSED

Q17 How many of your friends use other illegal drugs or drugs prescribed for someone else?

(1) All
(2) Most
(3) Some
(4) Few
(5) None
(8) DON'T KNOW
(9) REFUSED

Q18 How many of your friends drink alcoholic beverages pretty regularly, like on most weekends or more?

(1) All
(2) Most
(3) Some
(4) Few
(5) None
(8) DON'T KNOW
(9) REFUSED

Q19 Now I have some questions about your personal experiences. Have you ever had an alcoholic drink, that is, more than a few sips?

(1) Yes
(2) No **(Skip to Q22)**
(8) DON'T KNOW **(Skip to Q22)**
(9) REFUSED **(Skip to Q22)**

Q20 How old were you when you had your first drink of alcohol, that is, other than just a few sips?
(0-25)
(88) DON'T KNOW
(99) REFUSED

Q21 In the last month, on how many days did you have at least one drink of alcohol? (A "drink" is a glass of wine, a bottle of beer, a wine cooler, a shot glass of liquor, or a mixed drink.)
(0) Did not use alcohol in the last month **(Skip to Q21c)**
(1-31)
(88) DON'T KNOW
(99) REFUSED

Q21a On the days that you drank during the last month, how many drinks did you usually have on a typical day? (A "drink" is a glass of wine, a bottle of beer, a winecooler, a shot glass of liquor, or a mixed drink.)
(1-66)
(88) DON'T KNOW
(99) REFUSED

Q21b During the last month, on how many days did you have five or more drinks of alcohol in a row, that is, within a couple of hours?
(0) Did not have more than 5 drinks in a row
(1-31)
(88) DON'T KNOW
(99) REFUSED

Q21c Did you ever try to quit drinking alcohol?
(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q22 Do you smoke cigarettes?
(1) Yes
(2) No **(Skip to Q25)**
(8) DON'T KNOW **(Skip to Q25)**
(9) REFUSED **(Skip to Q25)**

Q23 How old were you when you smoked a cigarette for the first time, that is, more than just a few puffs?
(0-25)
(88) DON'T KNOW
(99) REFUSED

Q24a Did you ever try to quit smoking cigarettes?
(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q24b In the last month, on how many days did you smoke at least one cigarette, that is, more than just a few puffs of a cigarette?

(0) Did not smoke in the last month **(Skip to Q25)**
(1-31)
(88) DON'T KNOW **(Skip to Q25)**
(99) REFUSED **(Skip to Q25)**

Q24c On the days that you smoked during the last month, how many packs of cigarettes did you usually smoke on a typical day?

(1) 1 to 5 cigarettes
(2) About ½ pack
(3) About 1 pack
(4) About 1½ packs
(5) About 2 packs or more
(8) DON'T KNOW
(9) REFUSED

Q25 Have you ever tried any type of illegal drugs?

(1) Yes
(2) No **(Skip to Q29)**
(8) DON'T KNOW **(Skip to Q29)**
(9) REFUSED **(Skip to Q29)**

Q26 Did you ever try weed, pot or marijuana?

(1) Yes
(2) No **(Skip to Q27)**
(8) DON'T KNOW **(Skip to Q27)**
(9) REFUSED **(Skip to Q27)**

Q26a How old were you when you tried weed, pot or marijuana for the first time?

(0-25)
(88) DON'T KNOW
(99) REFUSED

Q26b During the last month, on how many days did you use weed, pot or marijuana?

(0) Did not use marijuana in the month 30 days
(1-31)
(88) DON'T KNOW
(99) REFUSED

Q27 During the past year did you use any of the following: crystal meth, Cocaine, Heroin, Acid, or shrooms:

(1) Not at all
(2) Once or twice
(3) A few times
(4) Often (More than a few times)
(8) DON'T KNOW
(9) REFUSED

Q28 During the past year, did you use Ecstasy?
(1) Not at all
(2) Once or twice
(3) A few times
(4) Often (More than a few times)
(8) DON'T KNOW
(9) REFUSED

Q29 During the past year, did you use Ritalin that was not prescribed for you?
(1) Not at all
(2) Once or twice
(3) A few times
(4) Often (More than a few times)
(8) DON'T KNOW
(9) REFUSED

Q30 During the past year, did you use any other prescription drugs that were not prescribed for you, such as stimulants, sedatives, tranquilizers, painkillers, or antidepressants?
(1) Not at all
(2) Once or twice
(3) A few times
(4) Often (More than a few times)
(8) DON'T KNOW
(9) REFUSED

Q31a Do you currently live with both your parents, with one parent, with one parent and a step-parent, or with someone else?
(1) Both parents
(2) Mother only
(3) Mother/stepfather)
(4) Father only
(5) Father/stepmother)
(6) Alone
(7) Someone else
(8) DON'T KNOW
(9) REFUSED

Q31b Who do you live with?
(1) Both parents, some of the time
(2) With friends
(3) With spouse, no children
(4) With spouse and children
(5) With children, no spouse?
(6) Other **(Specify)**
(8) DON'T KNOW)
(9) REFUSED

Q31c1 (Is this/are these) your legal guardian(s)?
(1) Yes
(2) No
(8) DON'T KNOW

Q31c2 Is this two guardians, one female guardian, or one male guardian?
(1) Two guardians
(2) One female guardian
(3) One male guardian

Q32 Would you describe your relationship with your [fill from 7a/7b/7c: mother/female guardian] as: **[ask only if respondent lives with both parents, or her mother, female guardian, or step-mother]**
(1) Excellent
(2) Good
(3) Fair
(4) Poor
(8) DON'T KNOW
(9) REFUSED

Q33 Would you describe your relationship with your [fill father/male guardian] as: **[ask if only if respondent lives with both parents, or her father, male guardian, or step-father]**
(1) Excellent
(2) Good
(3) Fair
(4) Poor
(8) DON'T KNOW
(9) REFUSED

[Q35-Q38 ask only if respondent live with parents or guardians, Q31a # 6]

Q35a **[skip to Q35b if Q22 > 1"hasn't smoked"]** Do you think your [parent(s)/guardian(s)] know(s) that you have smoked cigarettes?
(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q35b **[skip to Q35c if Q19 > 1"hasn't drunk"]** Do you think your [parent(s)/guardian(s)] know(s) that you have drunk alcohol?
(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q35c **[Skip to Q36 if Q25 > 1"no illegal drug use"]** Do you think your [parent(s)/guardian(s)] know(s) that you have used illegal drugs?
(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

[Q36, Q36a and Q36b ask only if respondent has used substances (drinking, smoking, illegal drugs, or misused prescription drugs), Q19=1 or Q22=1 or Q25=1 or Q29=1 or Q30=1] [Skip to Q36b if 'no' to Q35a and Q35b and Q35c]

Q36 Which of your [fill parent(s)/guardian(s)]know about your substance use? **[ask only if respondent lives with both parents]**

(1) Mother/ female guardian knows
(2) Father /male guardian knows
(3) Both know
(8) DON'T KNOW
(9) REFUSED

Q36a Which of the following best describes how you think your [fill parent(s)/guardian(s)] felt when they found out you were using substances?

(1) [Fill He/she/they] were disappointed
(2) [Fill He/she/they] were angry
(3) [Fill He/she/they] didn't really care/didn't mind
(4) Something else (**Specify:** "How do you think they felt?")
(8) DON'T KNOW
(9) REFUSED

Q36b Which of the following best describes how you think your [fill parent(s)/guardian(s)] would feel if they found out you were using substances?

(1) [Fill He/she/they] would be disappointed
(2) [Fill He/she/they] would be angry
(3) [Fill He/she/they] wouldn't really care/wouldn't mind
(4) Something else **(Specify: "How do you think they would feel?")**
(8) DON'T KNOW
(9) REFUSED

Q36c Have you ever had a conversation with either of your [fill parent(s)/guardian(s)] about smoking, drinking alcohol, or using illegal drugs?

(1) Yes
(2) No **(Skip to Q37)**
(8) DON'T KNOW **(Skip to Q37)**
(9) REFUSED **(Skip to Q37)**

Q36d The first time you had this type of conversation, did:

(1) You approach your [fill parent(s)/guardian(s)] to talk about it
(2) Did [fill they/she/he] approach you to talk about it
(8) DON'T KNOW
(9) REFUSED

[Q36e, Q36e1 and Q36e2 ask only if respondent lives with two parents/guardians]
[If rndQ36e le <4> skip to Q36e2]

Q36e1 Do you mostly talk about these things with your:

(1) [fill Mother/Female guardian]
(2) [fill Father/Male guardian]
(3) Both [fill parents/ guardians] equally
(4) Neither [fill parents/ guardians]
(8) DON'T KNOW
(9) REFUSED

Q36e2 Do you mostly talk about these things with your:
(1) [fill Father/Male guardian]
(2) [fill Mother/Female guardian]
(3) Both [fill parents/ guardians] equally
(4) Neither [fill parents/ guardians]
(8) DON'T KNOW
(9) REFUSED

Q36f The first time you had this type of conversation, did it happen because your [fill parent(s)/guardian] found out that you [fill smoked/drank/used illegal drugs as appropriate]?**[only ask if (Q36= "1-yes mother/female guardian" or Q36= "2-yes father/male guardian" or Q36= "3-yes both")]**
(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q36g Have the conversations made you more likely, less likely, or have they had no effect on whether you smoke, drink, or use illegal drugs?
(1) More likely
(2) Less likely
(3) No effect
(8) DON'T KNOW
(9) REFUSED

Q36g2 Have they told you things about tobacco, alcohol, or illegal drugs that you did not know?
(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q37 Have you ever wished that [fill one or both of your parent(s)/guardian(s)] would smoke less than they do, or do they not smoke at all?
(1) Yes
(2) No
(3) Don't smoke
(8) DON'T KNOW/NOT SURE
(9) REFUSED

Q38 Have you ever wished that [fill one or both of your parent(s)/guardian(s)] would drink less alcohol than they do, or do they not drink?
(1) Yes
(2) No
(3) Don't drink
(8) DON'T KNOW/NOT SURE
(9) REFUSED

Q39 Now I'd like to ask you some questions about how you picture yourself and your body. When thinking about your physical appearance, do you compare yourself to:

(1) A friend or classmate
(2) A family member
(3) A model or a celebrity, such as an actor or singer
(4) Don't compare
(8) DON'T KNOW
(9) REFUSED

Q40 Would you say you are:

(1) Very underweight
(2) Slightly underweight
(3) About the right weight
(4) Slightly overweight
(5) Very overweight
(8) DON'T KNOW
(9) REFUSED

Q41 Do you think most people would describe you as:

(1) Very underweight
(2) Slightly underweight
(3) About the right weight
(4) Slightly overweight
(5) Very overweight
(8) DON'T KNOW
(9) REFUSED

Q42 Are you currently trying to:

(1) Lose weight
(2) Gain weight **(Skip to Q43)**
(3) Stay the same weight **(Skip to Q42c)**
(4) Do noting about your weight **(Skip to Q43)**
(8) DON'T KNOW **(Skip to Q43)**
(9) REFUSED **(Skip to Q43)**

Q42a Have you been trying to lose weight for:

(1) A few weeks
(2) A few months
(3) A year
(4) A few years
(8) DON'T KNOW
(9) REFUSED

Q42b1 If you were able to lose weight: Do you think you would be more popular or more well liked?

(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q42b2 If you were able to lose weight: Do you think you would be prettier (Cohorts 1,2)/ more attractive (Cohorts 3,4)?

(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q42b3 If you were able to lose weight: Would boys (Cohorts 1,2)/men (Cohorts 3,4) like you better?

(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q42c During the past year, did you ever take diet pills, powders, or liquids without a doctor's advice to lose weight or to keep from gaining weight?

(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q42d During the past year, did you ever eat less food, fewer calories, or foods low in fat to try to lose weight or to keep from gaining weight?

(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q42e During the past year, did you ever fast, or go without eating for a day or more, to lose weight or to keep from gaining weight?

(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q42f During the past year, did you ever binge and then purge; that is, eat a lot of food and then try to vomit or take laxatives to get rid of the calories?

(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q43 Do you think that cigarette smoking would make you:

(1) Lose weight
(2) Gain weight
(3) Do nothing to your weight
(8) DON'T KNOW
(9) REFUSED

Q44 Do you think that drinking alcohol would make you:
(1) Lose weight
(2) Gain weight
(3) Do nothing to your weight
(8) DON'T KNOW
(9) REFUSED

[Q45a and Q45b ask only if cohort 3]

Q45a The next questions are on some different topics. **[Q45-series ask only cohort 3]** Do you want to go to college?
(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q45b Do you think you will go to college?
(1) Definitely
(2) Probably
(3) Probably not
(4) Definitely not
(8) DON'T KNOW
(9) REFUSED

Q46a Now I have some questions about your personality. During the past week, how many days did you feel bothered by things that usually don't bother you? Was it:
(0) None
(1) Less than 1 day
(2) 1-2 days
(3) 3-4 days
(4) 5-7 days
(8) DON'T KNOW
(9) REFUSED

Q46b During the past week, how many days did you feel depressed? Was it:
(0) None
(1) Less than 1 day
(2) 1-2 days
(3) 3-4 days
(4) 5-7 days
(8) DON'T KNOW
(9) REFUSED

Q46c During the past week, how many days did you feel happy? Was it:
(0) None
(1) Less than 1 day
(2) 1-2 days
(3) 3-4 days
(4) 5-7 days
(8) DON'T KNOW
(9) REFUSED

Q46d During the past week, how many days did you have crying spells? Was it:
(0) None
(1) Less than 1 day
(2) 1-2 days
(3) 3-4 days
(4) 5-7 days
(8) DON'T KNOW
(9) REFUSED

[Q47-series ask only cohort 2,3,4]

Q47a Please tell me whether each of the following statements is mostly true or mostly false as it applies to you. In a group of people, you are rarely the center of attention.
(1) True/mostly true
(2) False/mostly false
(8) DON'T KNOW
(9) REFUSED

Q47b The next statement is: You would not change your opinions (or the way you do things) in order to please someone or in their favor.
(1) True/mostly true
(2) False/mostly false
(8) DON'T KNOW
(9) REFUSED

Q47c The next statement is: You may deceive people by being friendly when you really dislike them.
(1) True/mostly true
(2) False/mostly false
(8) DON'T KNOW
(9) REFUSED

Q47d The next statement is: When you are uncertain how to act in a social situation, you look to the behavior of others for cues.
(1) True/mostly true
(2) False/mostly false
(8) DON'T KNOW
(9) REFUSED

Q47e The last statement is: Even if you are not enjoying yourself, you often pretend to be having a good time.
(1) True/mostly true
(2) False/mostly false
(8) DON'T KNOW
(9) REFUSED

Q48a Next I want to ask you a few questions about the ways you handle problems. When you have a serious problem, how often do you wait and hope that things will get better.

(1) Never
(2) Rarely
(3) Sometimes
(4) Often
(5) Always
(8) DON'T KNOW
(9) REFUSED

Q48b When you have a serious problem, how often do you talk with someone about the problem.

(1) Never
(2) Rarely
(3) Sometimes
(4) Often
(5) Always
(8) DON'T KNOW
(9) REFUSED

Q48c When you have a serious problem, how often do you use alcohol or drugs to make yourself feel better.

(1) Never
(2) Rarely
(3) Sometimes
(4) Often
(5) Always
(8) DON'T KNOW
(9) REFUSED

Q48d When you have a serious problem how often do you try not to think about it.

(1) Never
(2) Rarely
(3) Sometimes
(4) Often
(5) Always
(8) DON'T KNOW
(9) REFUSED

Q49 The next questions are about religion and spirituality. How often do you attend religious services?

(1) Never **(Skip to Q51)**
(2) Rarely
(3) A few times a year
(4) Once or twice a month
(5) About once a week or more
(8) DON'T KNOW
(9) REFUSED

Q50 Which of the following is the main reason for why you go? Do you go:
(1) To feel closer to God
(2) Because your parents want you to go
(3) To see friends and family
(4) To be around people who are similar to you
(5) Because it is a sin not to go
(6) For some other reason **(Specify: "What is that reason?")**

Q51 How important is religion or spirituality to you?
(1) Not at all important,
(2) Somewhat important,
(3) Very important, or
(4) Extremely important?
(8) DON'T KNOW
(9) REFUSED

Q52a In what month were you born?
(1) January
(2) February
(3) March
(4) April
(5) May
(6) June
(7) July
(8) August
(9) September
(10) October
(11) November
(12) December

Q52b In what year were you born?
(76-95)
(98) DON'T KNOW
(99) REFUSED

Q53 Are you currently: **[Q53 ask only cohort 3,4]**
(1) Employed full-time **(Skip to Q54a)**
(2) Part-time **(Skip to Q54a)**
(3) Not employed at all?
(8) DON'T KNOW **(Skip to Q54a)**
(9) REFUSED **(Skip to Q54a)**

Q53a Is that mainly because you are: **[Q53a ask only cohort 4]**
(1) Temporarily laid off
(2) Unemployed
(3) Permanently disabled
(4) A homemaker
(5) A student
(6) Other
(8) DON'T KNOW
(9) REFUSED

Q54a Are you of Spanish or Hispanic origin or descent?
(1) Yes
(2) No
(9) REFUSED

Q54b Are you:
(1) White
(2) Black
(3) Asian
(4) Another race
(9) REFUSED

Q55 As you were speaking with me, was there someone there with you who could overhear your answers?
(1) Yes
(2) No **(Skip to Q56)**
(8) DON'T KNOW
(9) REFUSED

Q55a Did having someone there at all affect how you answered the questions I asked you?
(1) Yes
(2) No
(8) DON'T KNOW
(9) REFUSED

Q56 In general, how much did you tell the truth in answering the questions on this survey?
(1) All of the time
(2) Most of the time
(3) About half of the time
(4) Less than half of the time
(5) None of the time
(8) DON'T KNOW
(9) REFUSED

Q57 In case you move before the next time we contact you, can you provide us with the name of a person that will know how to get in touch with you? **[Ask only if respondent is under 18 years old]**
(1) Yes
(2) No

Q58 In general, how much do you think the respondent told the truth in answering the questions on this survey ?
(1) All of the time
(2) Most of the time
(3) About half of the time
(4) Less than half of the time
(5) Almost none of the time

Appendix C

Focus Groups Methodology

To inform the development of CASA's survey and to provide an inside look at the substance use-related attitudes and behaviors of preadolescent girls and their parents, five focus groups were conducted in January of 2001 by Applied Research and Consulting LLC (ARC).

Three focus groups were conducted with eight to 12 year-old girls and two focus groups were conducted with some of the parents of these girls in Westchester County, New York. The groups were divided as follows:

- One group with eight to 10 year-old girls;
- One group with nine to 11 year-old girls;
- One group with 10 to 12 year-old girls;
- One group with the parents of eight- to 10-year old girls; and
- One group with the parents of 11- to 12-year old girls.

The interviews were designed to explore a variety of key issues related to the attitudes of preadolescent girls and their parents toward tobacco, alcohol and drugs, as well as to identify factors that might contribute to girls' eventual use of these substances. Specific issues that were examined included:

- Communication about tobacco, alcohol and drugs--sources of information, messages communicated (both positive and negative) and the decision-making process of parents regarding when and how to talk to daughters about these substances;
- Motivations for and against substance use--girls' and parents' reports of reasons why girls would or would not engage in substance use;

- Perceived profiles of substance users--girls' and parents' descriptions of typical smokers, drinkers and drug users;

- Overall awareness of and exposure to drugs and drug use;

- Girls' and parents' understanding of the relationship among tobacco, alcohol and drugs; and

- Developmental differences among the girls as they relate to substance use attitudes and behaviors.

Discussion Guides

Girls' Discussion Guide

How do you think getting older and becoming a teenager will affect:

- how you spend your free time?

- how independent you are?

- how important doing well in school will be?

- how you look?

- your relationship with your friends (e.g., time spent together, activities)?

- your relationships with boys?

- your relationships with your parents and siblings?

- whether or not you start smoking (drinking, using drugs)?

What kinds of problems or worries would you be most/least likely to talk to your parents about?

What kinds of problems or worries would you be most/least likely to talk to your friends about?

If you had questions about smoking (drinking, using drugs), who would/wouldn't you ask?

Could you talk to your parents about things that might concern you, such as your appearance, problems with school, problems with friends or thoughts about drinking or using drugs?

Is there something that your parents could say or do that would make you not want to talk with them again about things that might concern you, such as your appearance, problems with school, problems with friends or thoughts about drinking or using drugs?

When you think of kids your age who smoke (drink, use drugs), what other kinds of things do you think they do? [Probe: for fun; how they do in school; how they act with their family?] What kinds of things do you think they wouldn't do?

When you think of adults who smoke (drink, use drugs), what other kinds of things do you think they do? [Probe: for fun; how they do in school; how they act with their family?] What kinds of things do you think they wouldn't do?

How does it make you feel when you see adults, who usually say that kids shouldn't smoke (drink, use drugs), themselves smoke, drink or use drugs? [Probe: for example, if your teacher talks about why it's bad to smoke (drink, use drugs) and then you see her smoking (drinking, using drugs), how would you feel about that?]

Why do you think people smoke (drink, use drugs)? What do you think makes people do it in the first place and what do you think makes them continue to smoke (drink, use drugs) once they've started?

What are the good things about smoking (drinking, using drugs)? What are the bad things?

How do you think smoking (drinking, using drugs) affects the health of someone your age?

Why do kids smoke (drink, use drugs) even though they know it's unhealthy?

If you had a friend who started to smoke (drink, use drugs) and you really wanted to convince her/him not to, what would be the best way to do that? What would you say? Do you think it would work? Why/why not?

What kinds of drugs do kids your age use?

Do you think there are some drugs that are more okay to use than others? Why/why not? Which ones? [Discuss perceptions of particular drugs that they name. Then get perceptions of major drugs that they hadn't named.]

Do friends or do parents have a bigger influence on the decisions that kids your age make about their personal life?

Imagine you're trying to decide whether or not to use a particular drug. Who would have the bigger influence on that decision, your friends or parents?

What things do kids your age feel comfortable/ do not feel comfortable talking about with their parents? [Probe: school, friends, drugs, sex]

Have your parents talked with you at all about smoking (drinking, using drugs)? [Probe: their reactions to talking with parents about this]

Why do you think parents do/do not talk about smoking (drinking, using drugs) with their kids?

Do kids your age want to be able to talk more with parents about smoking, drinking, or using drugs? What specifically would they want to talk with them about? [Probe: Facts about different substances? Parents' own experiences with substances?]

How do you think parents would respond if they found out their kid was smoking (drinking, using drugs)?

Parents' Discussion Guide

What do you think about your daughter getting older? What are you (as a parent) looking forward to as she gets older? What are you concerned about or fearful of?

What does getting older mean for pre-teen girls in terms of:

- how they spend their free time?
- being more independent?
- importance of academic achievement?
- importance of appearance?
- relationships with friends?
- relationships with boys?
- relationships with parents and siblings?

What sorts of challenges do you think your daughters face as they grow and mature? How do you help your daughters face these challenges? Is smoking (drinking, using drugs) a part of getting older? In what way?

Where do you think kids learn about substances?

Why do you think girls smoke (drink, use drugs)?

From a child's perspective, what is good about smoking (drinking, using drugs)? What is bad?

What gets them into substance use? Why do they keep doing it even though they know it's bad for them?

How much influence do you think you have over whether or not your daughter smokes (drinks, uses drugs)? How does your influence compare with the influence of your daughter's peers? the media?

Do you think your attitudes about your daughters using substances will change in any way as they get older? How?

What role do parents play in influencing whether or not their daughters smoke (drink, use drugs)?

What do you think is the right age to talk to kids about substance use? What are those conversations like?

What would you do if you found out that your daughter was smoking (drinking, using drugs)?

What role do you want to play in preventing your daughter from using substances? Are there any barriers that make this difficult?

What are you thoughts about adults smoking or drinking in front of children? What are your attitudes about serving alcohol with dinner or at parties where children are present? If an underage child asks for a drink at such a dinner or party, how do parents respond? How should they respond?

Does concern for children's substance use affect parents' own substance use behaviors?

Appendix D
Descriptions of National Surveys

Youth Risk Behavior Survey (YRBS)

The Youth Risk Behavior Survey (YRBS), a national survey conducted every two years, monitors six categories of priority health-risk behaviors among youth and young adults--behaviors that contribute to unintentional and intentional injuries; tobacco use; alcohol and other drug use; sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases (including human immunodeficiency virus [HIV] infection); unhealthy dietary behaviors; and physical inactivity. The YRBS includes a national school-based survey conducted by the Centers for Disease Control and Prevention (CDC) as well as state, territorial, and local school-based surveys conducted by education and health agencies.

The 2001 national school-based YRBS--from which much of the prevalence data in this report are obtained--employed a three-stage cluster sample design to produce a nationally representative sample of students in grades nine through 12. National data are representative of students in grades nine through 12 in public and private schools in the 50 states and the District of Columbia. For the national YRBS, 13,601 usable questionnaires were obtained from 150 schools. The school response rate was 75 percent and the student response rate was 83 percent, resulting in an overall response rate of 63 percent.

The National Household Survey on Drug Abuse (NHSDA)

The National Household Survey on Drug Abuse (NHSDA) provides annual estimates of the prevalence of illicit drug, alcohol and tobacco use in the U.S. and monitors the trends in use over time. It is based on a representative sample of the noninstitutionalized U.S. population age

12 and older. Conducted by the Federal Government since 1971, the survey collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at their place of residence. The survey is sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). The NHSDA collects information from residents of households, noninstitutional group quarters (e.g., shelters, rooming houses, dormitories), and civilians living on military bases. Persons excluded from the survey include homeless persons who do not use shelters, active military personnel, and residents of institutional group quarters, such as jails and hospitals. Nationally, 68,929 persons were interviewed for the 2001 survey.

The National Longitudinal Study of Adolescent Health (Add Health)

The National Longitudinal Study of Adolescent Health (Add Health) is a school-based study of the health-related behaviors of adolescents in grades seven through 12. Data are collected by the National Opinion Research Center of the University of Chicago. The study is funded by the National Institute of Child Health and Human Development (NICHD) and 17 other federal agencies. Currently, data are available from four surveys during Wave I (conducted from September 1994 through December 1995) and two surveys during Wave II (conducted from April 1996 through August 1996).

Monitoring the Future (MTF)

Monitoring the Future is an ongoing study of the behaviors, attitudes, and values of American secondary school students, college students, and young adults. Each year, a total of some 50,000 eighth, tenth and twelfth grade students are surveyed (twelfth graders since 1975, and eighth and tenth graders since 1991). In addition, annual follow-up questionnaires are mailed to a sample of each graduating class for a number of years after their initial participation.

CASA's Annual National Survey of American Attitudes on Substance Abuse

Since 1995, CASA has conducted national surveys of teens' attitudes toward substance abuse as well as the attitudes of those who most influence them--parents, teachers and school principals. While other surveys seek to measure the extent of substance use in the population, CASA's survey probes substance abuse risk. The purpose of the survey is to identify factors that increase or diminish the likelihood that teens will use cigarettes, alcohol or illegal drugs in an effort to develop the most effective means of helping teens avoid substance abuse.

Appendix E

Select Female-Specific Prevention Programs

Program Name	Target Population	Program Goals	Select Program Features	Program Delivery	Select Program Outcomes
Project Chrysalis Evaluation: Brown, K. J., & Block, A. J. (2001). Evaluation of Project Chrysalis: A school-based intervention to reduce negative consequences of abuse. *Journal of Early Adolescence, 21*(3), 325-353	Girls in grades nine through 12 with histories of physical, sexual and emotional abuse	• Reduce the use of alcohol and other drugs among girls • Reduce the negative consequences of childhood sexual abuse • Improve health, healthy behaviors, school performance, self-determination, independence and self image	• School-based • Voluntary	• School-based support groups • Case management services (on request) • Rewards for attendance at support group sessions • Educational open sessions • 1-day physical challenge course • 1-day self-defense training	• Project Chrysalis program attendance was positively related to healthier attitudes about alcohol and drug use one year after participation in the program • Project Chrysalis components had no effect on decreasing the likelihood of initiating the use of alcohol, tobacco or marijuana immediately following participation in the program or one year later • At two year follow up, the odds of never trying alcohol increased by 0.2 percent for each additional minute spent in case management • At two year follow-up, the odds of never trying tobacco increased by 7 percent and the odds of trying marijuana decreased by 5 percent for each program session attended • Project Chrysalis was more effective at preventing the initiation of alcohol or tobacco use than reducing the use of these substances among current users
Friendly PEERsuasion Evaluation: Weiss, F. L., & Nicholson, H. J. (1998). Friendly PEERsuasion against substance use: The Girls Incorporated model and evaluation. *Drugs & Society, 12*(1-2), 7-22.	Girls ages 11 to 14	• To help girls develop the skills, knowledge and support systems necessary to identify and resist social pressures to use substances	• Approaches drug abuse prevention for girls primarily as a peer issue	• Two part program delivery model: • **Part One.** 14 hour-long sessions in which girls learn decision-making, communication, and assertiveness skills through games, group discussions and role playing led by a trained adult facilitator. • **Part Two.** Girls plan and implement eight to 10 half-hour sessions of substance abuse prevention activities for groups of children ages six through 10.	• Findings from Friendly PEERsuasion in Birmingham Alabama showed that there was no increase in substance use among the younger participants (ages 11 to 12) in the treatment group (those starting participation in Friendly PEERsuasion at an earlier point in time than the comparison group) from the time they completed their training in part one of the program (22 percent) to the time they had engaged in part two (22 percent). During the same period of time there was an increase in reported use among the younger participants in the comparison group (34 percent to 40 percent). • Findings from Friendly PEERsuasion in Birmingham Alabama showed that the percentage of younger girls (ages 11 to 12) reporting substance use increased for both the treatment group (22 percent to 52 percent) and the comparison group (40 percent to 71 percent) from the time at which they had engaged in part two of the program to after program completion. • The small sample size, lack of follow-up over an extended period of time and the early stage of program implementation at evaluation make these results difficult to interpret.

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Program Name	Target Population	Program Goals	Select Program Features	Program Delivery	Select Program Outcomes
Girl Power! Evaluation: Marshall, C., Matthews, K., & Yager, L. (2001). *Girl Power! curriculum preliminary evaluation results.* Fairfax, Virginia: Fairfax-Falls Church Community Services Board.	Girls ages 10 to 15	• To reduce the incidence of substance abuse and related risk factors while increasing the resiliency and skills of girls • To infuse science-based substance abuse prevention practices in organizations serving youth • To increase public information and awareness about proven substance abuse prevention programs	• After-school based • 32 weeks in length	• Delivered around four major areas of program activity: 1. Education and skill building 2. Community service projects 3. Cultural, recreational and social events 4. Positive communication workshop for parents and caregivers • Delivered in neighborhood centers, schools, or programs where youth naturally congregate • As participants become active in the program activities, they are encouraged to assist in the planning of future activities	• No published outcome data that specifically examines its effectiveness on program participants' attitudes about substances or their use or abuse of substances

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Appendix F
Select Female-Specific Substance Abuse Treatment Programs

Program Name	Target Population	Program Goals	Select Program Features	Program Delivery	Select Program Outcomes
Not On Tobacco (N-O-T) Evaluation: Dino, G., Horn, K., Goldcamp, J., Fernandes, A., Kalsekar, I., & Massey, C. (2001). A 2-year efficacy study of Not On Tobacco in Florida: An overview of program successes in changing teen smoking behavior. *Preventive Medicine, 33*, 600-605.	Teens ages 14 to 19 who are regular smokers and are likely to be addicted to nicotine	• To help high school students stop smoking • To reduce the number of cigarettes smoked • To increase healthy lifestyle behaviors • To improve life management skills such as stress management, decision making, coping and interpersonal skills	• School-based program • Voluntary • Curriculum emphasizes total health approach to quitting smoking	• Separate groups for girls and boys • Groups led by facilitator of the same gender • Program meets once a week • Delivered in 10 one hour sessions • Four optional "booster" sessions	• 29.6 percent of girls participating in the program quit smoking around five months after the completion of the program, compared to 8.9 percent of girls participating in a brief self-help smoking cessation intervention • Adolescent boys participating in N-O-T quit at comparable rates to those of boys receiving the brief self-help intervention (14.4 and 15.9 percent, respectively) • Among those who did not quit smoking, 73 percent of females and 80 percent of males participating in N-O-T reduced weekend smoking compared to 37 percent of females and 35 percent of males receiving the brief intervention
Teen FreshStart with Buddy Evaluation: Albrecht, S., Payne, L., Stone, C. A., & Reynolds, M. D. (1998). A preliminary study of the use of peer support in smoking cessation for pregnant adolescents. *Journal of the American Academy of Nurse Practitioners, 10*(3), 119-125.	Pregnant adolescents who are smokers	• Increase smoker's awareness of her own smoking patterns • Identify triggers to smoke • Provide accurate information on the effects of smoking on health	• One-to-one peer support from a non-smoking female buddy • Curriculum includes information related to the effects of smoking on pregnancy and the fetus • Adult modeling	• Eight sessions • Each session consists of experiential learning activities • 30 minute individual education session with project nurse • Social activities • Immediate rewards, such as gifts and refreshments	• Participants in the *Teen FreshStart with Buddy* program smoked an average of 4 fewer cigarettes per day after completion of the program than those participating in the program without a buddy and those receiving only the 30 minute individual education session, combined • 30 percent of adolescents in the *Teen FreshStart with Buddy* program quit smoking after completion of the program compared to 16.6 percent either participating in the program without a buddy, or receiving only the 30-minute education session. These results were not statistically significant. • The small sample size of the study and the high dropout rate across program type make these results difficult to generalize

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Program Name	Target Population	Program Goals	Select Program Features	Program Delivery	Select Program Outcome
Caritas House Evaluation: Bianco, D. M., & Wallace, S. D. (1991). The chemically dependent female adolescent: A treatment challenge. In T. M. Rivinus (Ed.), *Children of chemically dependent parents: Multiperspectives from the cutting edge* (pp. 173-225). Philadelphia: Brunner/Mazel, Inc.	Adolescent female substance abusers ages 13 to 17 years	Residential treatment program goal is: • To help the presenting adolescent address alcohol and other drug abuse issues while making positive and rewarding changes in all life domains	• Virtually all female staff • Daily therapy sessions focus on issues that are gender linked, such as: ➢ Sexual abuse ➢ Eating disorders ➢ Sexuality ➢ Family issues ➢ Self-esteem	• 4 to 6 months of residential treatment, including: ➢ Individual counseling ➢ Group therapy ➢ Social skill building ➢ Parent groups ➢ Academic and remedial education ➢ 12-step attendance • Aftercare • Follow-up support	• Outcome of 63 residents of *Caritas House* discharged between July 1975 and June 1980 were examined according to a number of measures including criminal activity, opioid use, alcohol use, relationship with parents and overall success relative to other participants • Overall, 38.1 percent of program participants achieved high success, 31.7 achieved moderate success, and 30.2 achieved low success

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Reference List

Aarons, G. A., Brown, S. A., Coe, M. T., Myers, M. G., Garland, A. F., Ezzet-Lofstram, R., et al. (1999). Adolescent alcohol and drug abuse and health. *Journal of Adolescent Health, 24*(6), 412-421.

Abdelrahman, A. I., Rodriguez, G., Ryan, J. A., French, J. F., & Weinbaum, D. (1998). The epidemiology of substance use among middle school students: The impact of school, familial, community and individual risk factors. *Journal of Child and Adolescent Substance Abuse, 8*(1), 55-75.

Aboud, F. E., & Dennis, S. C. (1998). Adolescent use and abuse of alcohol. In D. Pushkar, W. M. Bukowski, A. E. Schwartzman, D. M. Stack, & D. R. White (Eds.), *Improving competence across the lifespan: Building interventions based on theory and research* (pp. 101-116). New York: Plenum Press.

Adger, H. (1992). Alcohol and other drug use and abuse in adolescents. In D. E. Rogers & E. Ginzburg (Eds.), *Adolescents at risk: Medical and social perspectives* (pp. 80-94). Boulder, CO: Westview Press.

Adlaf, E. M., & Ivis, F. J. (1996). Structure and relations: The influence of familial factors on adolescent substance use and delinquency. *Journal of Child and Adolescent Substance Abuse, 5*(3), 1-19.

Adlaf, E. M., & Smart, R. G. (1985). Drug use and religious affiliation, feelings and behaviour. *British Journal of Addiction, 80*(2), 163-171.

Alaniz, M. L., Treno, A. J., & Saltz, R. F. (1999). Gender, acculturation, and alcohol consumption among Mexican Americans. *Substance Use and Misuse, 34*(10), 1407-1426.

Alcohol and Drug Problems Association of North America. (1999). *Gender specific adolescent alcohol and drug abuse prevention and treatment: ADPA policy paper #3.* St. Charles, MO: Alcohol and Drug Problems Association of North America.

Allison, K. W., Crawford, I., Leone, P. E., Trickett, E., Perez-Febles, A., Burton, L. M., et al. (1999). Adolescent substance use: Preliminary examinations of school and neighborhood context. *American Journal of Community Psychology, 27*(2), 111-141.

Allison, P. D., & Furstenberg, F. F. (1989). How marital dissolution affects children: Variations by age and sex. *Developmental Psychology, 25*(4), 540-549.

Aloise-Young, P. A., & Hennigan, K. M. (1996). Self-image, the smoker stereotype and cigarette smoking: Developmental patterns from fifth through eighth grade. *Journal of Adolescence, 19*(2), 163-177.

Amaro, H., Blake, S. M., Schwartz, P., & Flinchbaugh, L. J. (2001). Developing theory-based substance abuse prevention programs for young adolescent girls. *Journal of Early Adolescence, 21*(3), 256-293.

American Academy of Child and Adolescent Psychiatry. (1997). *Normal adolescent development: Late high school years and beyond.* [On-line]. Retrieved July 12, 2002 from the World Wide Web: http://www.aacap.org.

American Academy of Child and Adolescent Psychiatry. (1997). *Normal adolescent development: Middle school and early high school years*. [On-line]. Retrieved July 12, 2002 from the World Wide Web: http://www.aacap.org.

American Legacy Foundation. (2000). *Legacy first look report: Cigarette smoking among youth: Results from the 1999 National Youth Tobacco Survey*. Washington, DC: American Legacy Foundation.

American Medical Association. (2002). *Underage drinkers at higher risk of brain damage than adults, American Medical Association report reveals* [Press release]. Chicago: American Medical Association.

American Psychiatric Association. (2000). Practice guideline for the treatment of patients with eating disorders. *American Journal of Psychiatry, 157*(1), 1-39.

Amey, C. H., & Albrecht, S. L. (1998). Race and ethnic differences in adolescent drug use: The impact of family structure and the quantity and quality of parental incarceration. *Journal of Drug Issues, 28*(2), 283-298.

Amey, C. H., Albrecht, S. L., & Miller, M. K. (1996). Racial differences in adolescent drug use: The impact of religion. *Substance Use and Misuse, 31*(10), 1311-1332.

Amos, A., Gray, D., Currie, C., & Elton, R. (1997). Healthy or druggy? Self-image, ideal image and smoking behaviour among young people. *Social Science and Medicine, 45*(6), 847-858.

Amos, A., & Haglund, M. (2000). From social taboo to "torch of freedom": The marketing of cigarettes to women. *Tobacco Control, 9*(1), 3-8.

Anda, R. F., Croft, J. B., Felitti, V. J., Nordenberg, D., Giles, W. H., Williamson, D. F., et al. (1999). Adverse childhood experiences and smoking during adolescence and adulthood. *JAMA, 282*(17), 1652-1658.

Anderson, A. R., & Henry, C. S. (1994). Family system characteristics and parental behaviors as predictors of adolescent substance use. *Adolescence, 29*(114), 405-420.

Andrews, J. A., Hops, H., Ary, D., Tildesley, E., & Harris, J. (1993). Parental influence on early adolescent substance use: Specific and nonspecific effects. *Journal of Early Adolescence, 13*(3), 285-310.

Aneshensel, C. S., Rutter, C. M., & Lachenbruch, P. A. (1991). Social structure, stress, and mental health: Competing conceptual and analytic models. *American Sociological Review, 56*(2), 166-178.

Ary, D. V., Duncan, T. E., Duncan, S. C., & Hops, H. (1999). Adolescent problem behavior: The influence of parents and peers. *Behavior Research and Therapy, 37*(3), 217-230.

Aseltine, R., & Gore, S. L. (2000). Variable effects of stress on alcohol use from adolescence to early adulthood. *Substance Use and Misuse, 35*(5), 643-668.

Au, J. G., & Donaldson, S. I. (2000). Social influences as explanations for substance use differences among Asian-American and European-American adolescents. *Journal of Psychoactive Drugs, 32*(1), 15-23.

Austin, G. and Prendergast, M. (1991). Young children of substance abusers. *Prevention Research Update, 8.*

Austin, S. B., & Gortmaker, S. L. (2001). Dieting and smoking initiation in early adolescent girls and boys: A prospective study. *American Journal of Public Health, 91*(3), 446-450.

Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1987). *Monitoring the Future, 1986: Questionnaire responses from the nation's high school seniors.* Ann Arbor, MI: University of Michigan, Institute for Social Research.

Bahr, S. J., Marcos, A. C., & Maughan, S. L. (1995). Family, educational and peer influences on the alcohol use of female and male adolescents. *Journal of Studies on Alcohol, 56*(4), 457-469.

Bahr, S. J., Maughan, S. L., Marcos, A. C., & Li, B. (1998). Family, religiosity, and the risk of adolescent drug use. *Journal of Marriage and the Family, 60*(4), 979-992.

Bailey, S. L., Pollock, N. K., Martin, C. S., & Lynch, K. G. (1999). Risky sexual behaviors among adolescents with alcohol use disorders. *Journal of Adolescent Health, 25*(3), 179-181.

Bainbridge, W. S., & Crutchfield, R. D. (1983). Sex role ideology and delinquency. *Sociological Perspectives, 26*(3), 253-274.

Band, P. R., Le, N. D., Fang, R., & Deschamps, M. (2002). Carcinogenic and endocrine disrupting effects of cigarette smoke and risk of breast cancer. *Lancet, 360*(9339), 1044-1049.

Barber, J. G., Bolitho, F., & Bertrand, L. D. (1999). Intrapersonal versus peer group predictors of adolescent drug use. *Children and Youth Services Review, 21*(7), 565-579.

Barnes, G. M., & Farrell, A. D. (1992). Parental support and control as predictors of adolescent drinking, delinquency, and related behavior problems. *Journal of Marriage and the Family, 54*(4), 763-776.

Barnes, G. M., Farrell, M. P., & Banerjee, S. (1994). Family influences on alcohol abuse and other problem behaviors among black and white adolescents in a general population sample. *Journal of Research on Adolescence, 4*(2), 183-201.

Bastiaens, L., Francis, G., & Lewis, K. (2000). The RAFFT as a screening tool for adolescent substance use disorder. *American Journal on Addictions, 9*(1), 10-16.

Bauman, K. E., Foshee, V. A., Koch, G. G., Haley, N. J., & Downtown, M. I. (1989). Testosterone and cigarette smoking in early adolescence. *Journal of Behavioral Medicine, 12*(5), 425-433.

Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review, 103*(1), 5-33.

Beautrais, A. L., Joyce, P. R., & Mulder, R. T. (1999). Cannabis abuse and serious suicide attempts. *Addiction, 94*(8), 1155-1164.

Beck, K. H., & Lockhart, S. J. (1992). A model of parental involvement in adolescent drinking and driving. *Journal of Youth and Adolescence, 21*(1), 35-51.

Beck, K. H., Thombs, D. L., Mahoney, C. A., & Fingar, K. M. (1995). Social context and sensation seeking: Gender differences in college student drinking motivations. *International Journal of the Addictions, 30*(9), 1101-1115.

Belle, D. (1989). Gender differences in children's social networks and supports. In D. Belle (Ed.), *Children's social networks and social support* (pp. 173-188). New York: John Wiley and Sons.

Bem, S. L. (1974). The measurement of psychological androgyny. *Journal of Consulting and Clinical Psychology, 42*(2), 155-162.

Benard, B. (1991). *Fostering resiliency in kids: Protective factors in family, school, and community.* Portland, OR: Northwest Regional Educational Laboratory.

Benda, B. B., & Corwyn, R. F. (2000). A theoretical model of religiosity and drug use with reciprocal relationships: A test using structural equation modeling. *Journal of Social Service Research, 26*(4), 43-67.

Bennett, E. M., & Kempter, K. J. (1994). Is abuse during childhood a risk factor for developing substance abuse problems as an adult? *Developmental and Behavioral Pediatrics, 15*(6), 426-429.

Berenson, A. B., Wiemann, C. M., & McCombs, S. (2001). Exposure to violence and associated health-risk behaviors among adolescent girls. *Archives of Pediatrics and Adolescent Medicine, 155*(11), 1238-1242.

Bernstein, G. A., Carroll, M. E., Thuras, P. D., Cosgrove, K. P., & Roth, M. E. (2002). Caffeine dependence in teenagers. *Drug and Alcohol Dependence, 66*(1), 1-6.

Best, D. L., Williams, J. E., Cloud, J. M., Davis, S. W., Robertson, L. S., Edwards, J. R., et al. (1977). Development of sex-trait stereotypes among young children in the United States, England, and Ireland. *Child Development, 48*(4), 1375-1384.

Betty Ford Center. (2002). *About Betty Ford Center: A brief history of the Betty Ford Center.* [On-line]. Retrieved December 6, 2002 from the World Wide Web: http://www.bettyfordcenter.org.

Betty Ford Center. (2002). *Betty Ford Center programs: Specialty programs.* [On-line]. Retrieved December 6, 2002 from the World Wide Web: http://www.bettyfordcenter.org.

Biederman, J., Faraone, S. V., Monuteaux, M. C., & Feighner, J. A. (2000). Patterns of alcohol and drug use in adolescents can be predicted by parental substance use disorders. *Pediatrics, 106*(4), 792-797.

Biener, L., & Siegel, M. (2000). Tobacco marketing and adolescent smoking: More support for a causal inference. *American Journal of Public Health, 90*(3), 407-411.

Bierut, L. J., Dinwiddie, S. H., Begleiter, H., Crow, R., Hesselbrock, V., Nuurnberger, J., et al. (1998). Familial transmission of substance dependence: Alcohol, marijuana, cocaine, and habitual smoking: A report from the Collaborative Study on the Genetics of Alcoholism. *Archives of General Psychiatry, 55*(11), 982-988.

Blake, S. M., Amaro, H., Schwartz, P., & Flinchbaugh, L. J. (2001). A review of substance abuse prevention interventions for young adolescent girls. *Journal of Early Adolescence, 21*(3), 294-324.

Blanton, H., Gibbons, F. X., Gerrard, M., Conger, K. J., & Smith, G. E. (1997). Role of family and peers in the development of prototypes associated with substance use. *Journal of Family Psychology, 11*(3), 271-288.

Block, J., Block, J. H., & Keyes, S. (1988). Longitudinally foretelling drug usage in adolescence: Early childhood personality and environmental precursors. *Child Development, 59*(2), 336-355.

Block, L. G., Morwitz, V. G., Putsis, W. P., & Sen, S. K. (2002). Assessing the impact of antidrug advertising on adolescent drug consumption: Results from a behavioral economic model. *American Journal of Public Health, 92*(8), 1346-1351.

Blyth, D. A., & Foster-Clark, F. S. (1987). Gender differences in perceived intimacy with different members of adolescents' social networks. *Sex Roles, 17*(11-12), 689-718.

Bogenschneider, K., Wu, M., Raffaelli, M., & Tsay, J. C. (1998). Parent influences on adolescent peer orientation and substance use: The interface of parenting practices and values. *Child Development, 69*(6), 1672-1688.

Borges, G., Walters, E. E., & Kessler, R. C. (2000). Associations of substance use, abuse, and dependence with subsequent suicidal behavior. *American Journal of Epidemiology, 151*(8), 781-789.

Borsari, B., & Carey, K. B. (2001). Peer influences on college drinking: A review of the research. *Journal of Substance Abuse, 13*(4), 391-424.

Bowersox, J. A. (1996). Cocaine affects men and women differently, NIDA study shows. *NIDA Notes, 11*(1), 7, 11.

Boys, A., Marsden, J., & Strang, J. (2001). Understanding reasons for drug use amongst young people: A functional perspective. *Health Education Research, 16* (4), 457-469.

Brady, J. P., Posner, M., Lang, C., & Rosati, M. J. (1994). *Risk and reality: The implications of prenatal exposure to alcohol and other drugs.* Washington, DC: U.S. Department of Education, Office of Educational Research and Improvement, Educational Resources Information.

Breslau, N., & Klein, D. F. (1999). Smoking and panic attacks: An epidemiologic investigation. *Archives of General Psychiatry, 56*(12), 1141-1147.

Bride, B. E. (2001). Single-gender treatment of substance abuse: Effect on treatment retention and completion. *Social Work Research, 25*(4), 223-231.

Brody, G. H., Flor, D. L., Hollet-Wright, N., McCoy, J. K., & Donovan, J. (1999). Parent-child relationships, child temperament profiles and children's alcohol use norms. *Journal of Studies on Alcohol, Suppl. 13*, 45-51.

Brook, J. S., Balka, E. B., Brook, D. W., Win, P. T., & Gursen, M. D. (1998). Drug use among African Americans: Ethnic identity as a protective factor. *Psychological Reports, 83*(3), 1427-1446.

Brook, J. S., Brook, D. W., Gordon, A. S., Whiteman, M., & Cohen, P. (1990). The psychosocial etiology of adolescent drug use: A family interactional approach. *Genetic, Social, and General Psychology Monographs, 116*(2), 111-267.

Brook, J. S., Richter, L., & Whiteman, M. (in press). Risk and protective factors of adolescent drug use: Implications for prevention programs. In W. J. Bukoski & Z. Sloboda (Eds.), *Handbook for drug abuse prevention theory, science, and practice*. New York: Plenum Press.

Brook, J. S., Richter, L., Whiteman, M., & Cohen, P. (1999). Consequences of adolescent marijuana use: Incompatibility with the assumption of adult roles. *Genetic, Social, and General Psychology Monographs, 125*(2), 193-207.

Brook, J. S., Rosen, Z., & Brook, D. W. (2001). The effect of early marijuana use on later anxiety and depressive symptoms. *NYS Psychologist, 13*(1), 35-40.

Brook, J. S., Whiteman, M., Balka, E. B., Win, P. T., & Gursen, M. D. (1998). Drug use among Puerto Ricans: Ethnic identity as a protective factor. *Hispanic Journal of Behavioral Sciences, 20*(2), 241-254.

Brook, J. S., Whiteman, M., Gordon, A. S., & Brenden, C. (1983). Older brother's influence on younger sibling's drug use. *Journal of Psychology, 114*(1), 83-90.

Brooks, T. L., Harris, S. K., Thrall, J. S., & Woods, E. R. (2002). Association of adolescent risk behaviors with mental health symptoms in high school students. *Journal of Adolescent Health, 31*(3), 240-246.

Brown, T. L., Parks, G. S., Zimmerman, R. S., & Phillips, C. M. (2001). The role of religion in predicting adolescent alcohol use and problem drinking. *Journal of Studies on Alcohol, 62*(5), 696-705.

Bucholz, K. K., Heath, A. C., & Madden, P. A. F. (2000). Transitions in drinking in adolescent females: Evidence from the Missouri Adolescent Female Twin Study. *Alcoholism: Clinical and Experimental Research, 24*(6), 914-923.

Bulik, C. M. (1992). Abuse of drugs associated with eating disorders. *Journal of Substance Abuse, 4*(1), 69-90.

Burt, R. D., Dinh, K. T., Peterson, A. V., & Sarason, I. G. (2000). Predicting adolescent smoking: A prospective study of personality variables. *Preventive Medicine, 30*(2), 115-125.

Byrne, D. G., Byrne, A. E., & Reinhart, M. I. (1995). Personality, stress and the decision to commence cigarette smoking in adolescence. *Journal of Psychosomatic Research, 39*(1), 53-62.

Caetano, R. (1987). Acculturation and drinking patterns among U.S. Hispanics. *British Journal of Addiction, 82*(7), 789-799.

Caetano, R. (1988). Alcohol use among Hispanic groups in the United States. *American Journal of Drug and Alcohol Abuse, 14*(3), 293-308.

Camp, D. E., Klesges, R. C., & Relyea, G. (1993). The relationship between body weight concerns and adolescent smoking. *Health Psychology, 12*(1), 24-32.

Caspi, A., Lynam, D., Moffitt, T. E., & Silva, P. A. (1993). Unraveling girls' delinquency: Biological, dispositional, and contextual contributions to adolescent misbehavior. *Developmental Psychology, 29*(1), 19-30.

Castro, F. G., Maddaian, E., Newcomb, M. D., & Bentler, P. M. (1987). A multivariate model of the determinants of cigarette smoking among adolescents. *Journal of Health and Social Behavior, 28*(3), 273-289.

Castrucci, B. C., Gerlach, K. K., Kaufman, N. J., & Orleans, C. T. (2002). Adolescents' acquisition of cigarettes through noncommercial sources. *Journal of Adolescent Health, 31*(4), 322-326.

Catalano, R. F., Morrison, D. M., Wells, E. A., Gillmore, M. R., Iritani, B., & Hawkins, J. D. (1992). Ethnic differences in family factors related to early drug initiation. *Journal of Studies on Alcohol, 53*(3), 208-217.

Cauce, A. M., Felner, R. D., & Primavera, J. (1982). Social support in high-risk adolescents: Structural components and adaptive impact. *American Journal of Community Psychology, 10*(4), 417-428.

Cavaiola, A. A., & Lavender, N. (1999). Suicidal behavior in chemically dependent adolescents. *Adolescence, 34*(136), 735-744.

Center for Science in the Public Interest. (1997). *Caffeine content of foods and drugs.* [On-line]. Retrieved October 25, 2002 from the World Wide Web: http://www.cspinet.org.

Center for Science in the Public Interest. (2001). *National poll shows "alcopops" drinks lure teens: Groups demand government investigate "starter suds"* [Press release]. Washington, DC: Center for Science in the Public Interest.

Center for Substance Abuse Treatment. (2000) *Substance abuse in brief: Successful treatment for adolescents: Multiple needs require diverse and special services* [Pamphlet]. Rockville, MD, U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

Center on Alcohol Marketing and Youth. (2002). *Overexposed: Youth a target of alcohol advertising in magazines.* Washington, DC: Georgetown University, Center on Alcohol Marketing and Youth.

Center on Alcohol Marketing and Youth. (2002). *Television: Alcohol's vast adland.* Washington, DC: Georgetown University, Center on Alcohol Marketing and Youth.

Centers for Disease Control and Prevention. (2000). National and state-specific pregnancy rates among adolescents: United States, 1995-1997. *Morbidity and Mortality Weekly Report, 49*(27), 605-611.

Centers for Disease Control and Prevention. (2001). CDC surveillance summaries: Youth tobacco surveillance: United States, 2000. *Morbidity and Mortality Weekly Report, 50*(SS-4).

Centers for Disease Control and Prevention. (2001). *Tobacco information and prevention source (TIPS): Historical fact sheet.* [On-line]. Retrieved May 20, 2002 from the World Wide Web: http://www.cdc.gov.

Centers for Disease Control and Prevention. (2002). Cigarette smoking among adults: United States, 2000. *Morbidity and Mortality Weekly Report, 51*(29).

Centers for Disease Control and Prevention, Grunbaum, J. A., Kann, L., Kinchen, S. A., Williams, B., Ross, J. G., et al. (2002). Youth risk behavior surveillance: United States, 2001. *Morbidity and Mortality Weekly Report, 51*(SS-4).

Cervantes, R. C., Gilbert, M. J., Salgado de Snyder, N., & Padilla, A. M. (1990-1991). Psychosocial and cognitive correlates of alcohol use in younger adult immigrant and U.S.-born Hispanics. *International Journal of the Addictions, 25*(5A-6A), 687-708.

Chassin, L., Pillow, D. R., Curran, P. J., Molina, B. S. G., & Barrera, Jr. M. (1993). Relation of parental alcoholism to early adolescent substance use: A test of three mediating mechanisms. *Journal of Abnormal Psychology, 102*(1), 3-19.

Chassin, L., Pitts, S. C., & DeLucia, C. (1999). The relation of adolescent substance use to young adult autonomy, positive activity involvement, and perceived competence. *Development and Psychopathology, 11*(4), 915-932.

Chassin, L., Presson, C. C., Montello, D., McGrew, J., & Sherman, S. J. (1986). Changes in peer and parent influence during adolescence: Longitudinal versus cross-sectional perspectives on smoking initiation. *Developmental Psychology, 22*(3), 327-334.

Chassin, L., Presson, C. C., Rose, J. S., & Sherman, S. J. (1996). The natural history of cigarette smoking from adolescence to adulthood: Demographic predictors of continuity and change. *Health Psychology, 15*(6), 478-484.

Chen, K., & Kandel, D. (2002). Relationship between extent of cocaine use and dependence among adolescents and adults in the United States. *Drug and Alcohol Dependence, 68*(1), 65-85.

Chilcoat, H. D., Dishion, T. J., & Anthony, J. C. (1995). Parent monitoring and the incidence of drug sampling in urban elementary school children. *American Journal of Epidemiology, 141*(1), 25-31.

Choi, W. S., Ahluwalia, J. S., Harris, K. J., & Okuyemi, K. (2002). Progression to established smoking: The influence of tobacco marketing. *American Journal of Preventive Medicine, 22*(4), 228-233.

Christiansen, B. A., Smith, G. T., Roehling, P. V., & Goldman, M. S. (1989). Using alcohol expectancies to predict adolescent drinking behavior at one year. *Journal of Consulting and Clinical Psychology, 57*(1), 93-99.

Cicchetti, D., & Rogosch, F. A. (1999). Psychopathology as risk for adolescent substance use disorders: A developmental psychopathology perspective. *Journal of Clinical Child Psychology, 28*(3), 355-365.

Clapper, R. L., Martin, C. S., & Clifford, P. R. (1994). Personality, social environment, and past behavior as predictors of late adolescent alcohol use. *Journal of Substance Abuse, 6*(3), 305-313.

Clark, D. B., Lynch, K. G., Donovan, J. E., & Block, G. D. (2001). Health problems in adolescents with alcohol use disorders: Self-report, liver injury, and physical examination findings and correlates. *Alcoholism: Clinical and Experimental Research, 25*(9), 1350-1359.

Clark, H. W. (2001). Residential substance abuse treatment for pregnant and postpartum women and their children: Treatment and policy implications. *Child Welfare, 80*(2), 179-198.

Clayton, S. (1991). Gender differences in psychosocial determinants of adolescent smoking. *Journal of School Health, 61*(3), 115-120.

Coates, D. L. (1987). Gender differences in the structure and support characteristics of black adolescents' social networks. *Sex Roles, 17*(11-12), 667-687.

Cohen, D. A., Richardson, J., & LaBree, L. (1994). Parenting behaviors and the onset of smoking and alcohol use: A longitudinal study. *Pediatrics, 94*(3), 368-375.

Colder, C. R., & Chassin, L. (1993). The stress and negative affect model for adolescent alcohol use and the moderating effects of behavioral undercontrol. *Journal of Studies on Alcohol, 54*(3), 326-333.

Conger, R. D., Wallace, L. E., Sun, Y., Simons, R. L., McLoyd, V. C., & Brody, G. H. (2002). Economic pressure in African American families: A replication and extension of the family stress model. *Developmental Psychology, 38*(2), 179-193.

Conger, R. D., & Rueter, M. A. (1996). Siblings, parents and peers: A longitudinal study of social influences in adolescent risk for alcohol use and abuse. In G. H. Brody (Ed.), *Sibling relationships: Their causes and consequences* (pp. 1-30). Norwood, NJ: Ablex.

Cook, R. L., Pollock, N. K., Rao, A. K., & Clark, D. B. (2002). Increased prevalence of herpes simplex virus type 2 among adolescent women with alcohol use disorders. *Journal of Adolescent Health, 30*(3), 169-174.

Cooper, L. M., Peirce, R. S., & Tidwell, M. O. (1995). Parental drinking problems and adolescent offspring substance use: Moderating effects of demographic and familial factors. *Psychology of Addictive Behaviors, 9*(1), 36-52.

Costello, E. J., Armstrong, T. D., & Erkanli, A. (2000). *Report on the developmental epidemiology of comorbid psychiatric and substance use disorders.* Durham, NC: Duke University Medical Center, Center for Developmental Epidemiology.

Crisp, A., Sedgwick, P., Halek, C., Joughin, N., & Humphrey, H. (1999). Why may teenage girls persist in smoking? *Journal of Adolescence, 22*(5), 657-672.

Crouter, A. C., MacDermid, S. M., McHale, S. M., & Perry-Jenkins, M. (1990). Parental monitoring and perceptions of children's school performance and conduct in dual- and single-earner families. *Developmental Psychology, 26*(4), 649-657.

Crum, R. M., & Harris, E. L. (1996). Risk of alcoholism and parental history: Gender differences and a possible reporting bias. *Genetic Epidemiology, 13*(4), 329-341.

Crum, R. M., Lillie-Blanton, M., & Anthony, J. C. (1996). Neighborhood environment and opportunity to use cocaine and other drugs in late childhood and early adolescence. *Drug and Alcohol Dependence, 43*(3), 155-161.

Cuadrado, M., & Lieberman, L. (1998). Traditionalism in the prevention of substance misuse among Puerto Ricans. *Substance Use and Misuse, 33*(14), 2737-2755.

Cullen, K. W., Koehly, L. M., Anderson, C., Baranowski, T., Prokhorov, A., Basen-Engquist, K., et al. (1999). Gender differences in chronic disease risk behaviors through the transition out of high school. *American Journal of Preventive Medicine, 17*(1), 1-7.

Curran, G. M., Stoltenberg, S. F., Hill, E. M., Mudd, S. A., Blow, F. C., & Zucker, R. A. (1999). Gender differences in the relationships among SES, family history of alcohol disorders and alcohol dependence. *Journal of Studies on Alcohol, 60*(6), 825-832.

Dakof, G. A. (2000). Understanding gender differences in adolescent drug abuse: Issues of comorbidity and family functioning. *Journal of Psychoactive Drugs, 32*(1), 25-32.

Dansky, B. S., Brewerton, T. D., & Kilpatrick, D. G. (2000). Comorbidity of bulimia nervosa and alcohol use disorders: Results from the National Women's Study. *International Journal of Eating Disorders, 27*(2), 180-190.

Dawes, M. A., Antelman, S. M., Vanyukov, M. M., Giancola, P., Tarter, R. E., Susman, E. J., et al. (2000). Developmental sources of variation in liability to adolescent substance use disorders. *Drug and Alcohol Dependence, 61*(1), 3-14.

Dees, W. L., Srivastava, V. K., & Hiney, J. K. (2001). Alcohol and female puberty: The role of intraovarian systems. *Alcohol Research and Health, 25*(4), 271-275.

DeFronzo, J., & Pawlak, R. (1994). Gender differences in determinants of smoking. *Journal of Drug Issues, 24*(3), 507-516.

DeWit, D. J., Adlaf, E. M., Offord, D. R., & Ogborne, A. C. (2000). Age at first alcohol use: A risk factor for the development of alcohol disorders. *American Journal of Psychiatry, 157*(5), 745-750.

Dick, D. M., Rose, R. J., Viken, R. J., & Kaprio, J. (2000). Pubertal timing and substance use: Associations between and within families across late adolescence. *Developmental Psychology, 36*(2), 180-189.

DiFranza, J. R., Savageau, J. A., Rigotti, N. A. F. K., Ockene, J. K., McNeill, A. D., Coleman, M., et al. (2002). Development of symptoms of tobacco dependence in youths: 30 month follow up data from the DANDY study. *Tobacco Control, 11*(3), 228-235.

Dino, G., Horn, K., Goldcamp, J., Fernandes, A., Kalsekar, I., & Massey, C. (2001). A 2-year efficacy study of Not On Tobacco in Florida: An overview of program successes in changing teen smoking behavior. *Preventive Medicine, 33*(6), 600-605.

Dino, G. A., Horn, K. A., Goldcamp, J., Maniar, S. D., Fernandes, A., & Massey, C. J. (2001). Statewide demonstration of Not On Tobacco: A gender-sensitive teen smoking cessation program. *Journal of School Nursing, 17*(2), 90-97.

Disney, E. R., Elkins, I. J., McGue, M., & Iacono, W. G. (1999). Effects of ADHD, conduct disorder, and gender on substance use and abuse in adolescence. *American Journal of Psychiatry, 156*(10), 1515-1521.

Dixit, A. R., & Crum, R. M. (2000). Prospective study of depression and the risk of heavy alcohol use in women. *American Journal of Psychiatry, 157*(5), 751-758.

Domino, E. F. (2001). Nicotine and tobacco dependence: Normalization or stimulation? *Alcohol, 24*(2), 83-86.

Dunn, M. E., & Goldman, M. S. (1996). Empirical modeling of an alcohol expectancy memory network in elementary school children and a function of grade. *Experimental and Clinical Psychopharmacology, 4*(2), 209-217.

Dunn, M. E., & Goldman, M. S. (1998). Age and drinking-related differences in the memory organization of alcohol expectancies in 3rd-, 6th-, 9th-, and 12th-grade children. *Journal of Consulting and Clinical Psychology, 66*(3), 579-585.

Durkin, K. (1995). *Developmental social psychology: From infancy to old age.* Malden, MA: Blackwell.

Dweck, C. S., & Licht, B. G. (1980). Learned helplessness and intellectual achievement. In J. Garber & M. E. P. Seligman (Eds.), *Human helplessness: Theory and application* (pp. 197-221). New York: Academic Press.

Earleywine, M. (1995). Expectancy accessibility, alcohol expectancies, and intentions to consume alcohol. *Journal of Applied Social Psychology, 25*(11), 933-943.

Earleywine, M., & Martin, C. S. (1993). Anticipated stimulant and sedative effects of alcohol vary with dosage and limb of the blood alcohol curve. *Alcoholism: Clinical and Experimental Research, 17*(1), 135-139.

Ehrlich, M. E., Sommer, J., Canas, E., & Unterwald, E. M. (2002). Periadolescent mice show enhanced DeltaFosB upregulation in response to cocaine and amphetamine. *Journal of Neuroscience, 22*(21), 9155-9159.

Ellen, J. M., Franzgrote, M., Irwin, C. E., & Millstein, S. G. (1998). Primary care physicians' screening of adolescent patients: A survey of California physicians. *Journal of Adolescent Health, 22*(6), 433-438.

Ellickson, P. L., Tucker, J. S., & Klein, D. J. (2001). Sex differences in predictors of adolescent smoking cessation. *Health Psychology, 20*(3), 186-195.

Ellis, B. J., McFadyen-Ketchum, S. , Dodge, K. A., Pettit, G. S., & Bates, J. E. (1999). Quality of early family relationships and individual differences in the timing of pubertal maturation in girls: A longitudinal test of an evolutionary model. *Journal of Personality and Social Psychology, 77*(2), 387-401.

Ellis, R. A., O'Hara, M., & Sowers, K. M. (2000). Profile-based intervention: Developing gender-sensitive treatment for adolescent substance abusers. *Research on Social Work Practice, 10*(3), 327-347.

Ely, M., Hardy, R., Longford, N. T., & Wadsworth, M. E. J. (1999). Gender differences in the relationship between alcohol consumption and drink problems are largely accounted for by body water. *Alcohol and Alcoholism, 34*(6), 894-902.

Ennett, S. T., Bauman, K. E., Foshee, V. A., Pemberton, M., & Hicks, K. A. (2001). Parent-child communication about adolescent tobacco and alcohol use: What do parents say and does it affect youth behavior? *Journal of Marriage and the Family, 63*(1), 48-62.

Epstein, J. A., Botvin, G. J., & Diaz, T. (1999). Etiology of alcohol use among Hispanic adolescents. *Archives of Pediatrics and Adolescent Medicine, 153*(10), 1077-1084.

Epstein, J. A., Botvin, G. J., & Diaz, T. (2001). Linguistic acculturation associated with higher marijuana and polydrug use among Hispanic adolescents. *Substance Use and Misuse, 36*(4), 477-499.

Epstein, J. A., Botvin, G. J., & Diaz, T. (2000). Alcohol use among Hispanic adolescents: Role of linguistic acculturation and gender. *Journal of Alcohol and Drug Education, 45*(3), 18-32.

Epstein, J. A., Botvin, G. J., Griffin, K. W., & Diaz, T. (1999). Role of ethnicity and gender in polydrug use among a longitudinal sample of inner-city adolescents. *Journal of Alcohol and Drug Education, 45*(1), 1-12.

Erikson, E. H. (1963). *Childhood and society.* New York: W. W. Norton.

Escamilla, G., Cradock, A. L., & Kawachi, I. (2000). Women and smoking in Hollywood movies: A content analysis. *American Journal of Public Health, 90*(3), 412-414.

Everett, S. A., Giovino, G. A., Warren, C. W., Crossett, L., & Kann, L. (1998). Other substance use among high school students who use tobacco. *Journal of Adolescent Health, 23*(5), 289-296.

Falco, M. (1992). *The making of a drug-free America: Programs that work.* New York: Times Books.

Famy, C., Streissguth, A. P., & Unis, A. S. (1998). Mental illness in adults with fetal alcohol syndrome or fetal alcohol effects. *American Journal of Psychiatry, 155*(4), 552-554.

Farrell, A. D., & White, K. S. (1998). Peer influences and drug use among urban adolescents: Family structure and parent-adolescent relationship as protective factors. *Journal of Counseling and Clinical Psychology, 66*(2), 248-258.

Farrelly, M. C., Healton, C. G., Davis, K. C., Messeri, P., Hersey, J. C., & Haviland, M. L. (2002). Getting to the truth: Evaluating national tobacco countermarketing campaigns. *American Journal of Public Health, 92*(6), 901-907.

Felitti, V. J. (2002). The relation between adverse childhood experiences and adult health: Turning gold into lead. *Permanente Journal, 6*(1), 44-47.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., et al. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245-258.

Field, A. E., Austin, S. B., Frazier, A. L., Gillman, M. W., Camargo, C. A., & Colditz, G. A. (2002). Smoking, getting drunk, and engaging in bulimic behaviors: In which order are the behaviors adopted? *Journal of the American Academy of Child and Adolescent Psychiatry, 41*(7), 846-853.

Fields, G. (2000, April 26). Campaign tries to reverse rise in drug abuse by girls: It's no longer a "young man's problem". *USA Today,*p. 4A.

Fiore, M. C., Bailey, W. C., Cohen, S. J., Dorfman, S. F., Goldstein, M. G., Gritz, E. R., et al. (2000). *Treating tobacco use and dependence: Clinical practice guideline* (GPO Item No. 0491-B-17). Washington, DC: U.S. Government Printing Office.

Fisher, D. G., MacKinnon, D. P., Anglin, M. D., & Thompson, J. P. (1987). Parental influences on substance use: Gender differences and stage theory. *Journal of Drug Education, 17*(1), 69-87.

Flanigan, B. J., Potrykus, P. A., & Marti, D. (1988). Alcohol and marijuana use among female adolescent incest victims. *Alcoholism Treatment Quarterly, 5*(1-2), 231-248.

Fletcher, A. C., & Jefferies, B. C. (1999). Parental mediators of associations between perceived authoritative parenting and early adolescent substance use. *Journal of Early Adolescence, 19*(4), 465-487.

Forthun, L. F., Bell, N. J., Peek, C. W., & Sun, S.-W. (1999). Religiosity, sensation seeking, and alcohol/drug use in denominational and gender contexts. *Journal of Drug Issues, 29*(1), 75-90.

Frank, R. E., Serdula, M. K., & Adame, D. (1991). Weight loss and bulimic eating behavior: Changing patterns within a population of young adult women. *Southern Medical Journal, 84*(4), 457-460.

French, S. A., & Perry, C. L. (1996). Smoking among adolescent girls: Prevalence and etiology. *Journal of the American Medical Womens Association, 51*(1-2), 25-28.

French, S. A., Perry, C. L., Leon, G. R., & Fulkerson, J. A. (1994). Weight concerns, dieting behavior, and smoking initiation among adolescents: A prospective study. *American Journal of Public Health, 84*(11), 1818-1820.

French, S. A., Story, M., Downes, B., Resnick, M. D., & Blum, R. W. (1995). Frequent dieting among adolescents: Psychosocial and health behavior correlates. *American Journal of Public Health, 85*(5), 695-701.

Frezza, M., Di Padova, C., Pozzato, G., Terpin, M., Baraona, E., & Lieber, C. S. (1990). High blood alcohol levels in women: The role of decreased gastric alcohol dehydrogenase activity and first-pass metabolism. *New England Journal of Medicine, 322*(2), 95-99.

Friedman, A. S., Granick, S., Bransfield, S., Kreisher, C., & Khalsa, J. (1995). Gender differences in early life risk factors for substance use/abuse: A study of an African-American sample. *American Journal of Drug and Alcohol Abuse, 21*(4), 511-531.

Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development, 63*(1), 103-115.

Galaif, E. R., Stein, J. A., Newcomb, M. D., & Bernstein, D. P. (2001). Gender differences in the prediction of problem alcohol use in adulthood: Exploring the influence of family factors and childhood maltreatment. *Journal of Studies on Alcohol, 62*(4), 486-493.

Garlow, S. J. (2002). Age, gender, and ethnicity differences in patterns of cocaine and ethanol use preceding suicide. *American Journal of Psychiatry, 159*(4), 615-619.

Garnefski, N., & Arends, E. (1998). Sexual abuse and adolescent maladjustment: Differences between male and female victims. *Journal of Adolescence, 21*(1), 99-107.

Gauvin, F., Bailey, B., & Bratton, S. L. (2001). Hospitalizations for pediatric intoxication in Washington state, 1987-1997. *Archives of Pediatrics and Adolescent Medicine, 155*(10), 1105-1110.

Gavaler, J. S. (1982). Sex-related differences in ethanol-induced liver disease: Artifactual or real? *Alcoholism: Clinical and Experimental Research, 6*(2), 186-196.

Gerrard, M., Gibbons, F. X., Zhao, L., Russell, D. W., & Reis-Bergan, M. (1999). The effect of peers' alcohol consumption on parental influence: A cognitive mediational model. *Journal of Studies on Alcohol, Suppl. 13*, 32-44.

Gfroerer, J. (1987). Correlation between drug use by teenagers and drug use by older family members. *American Journal of Drug and Alcohol Abuse, 13*(1-2), 95-108.

Gfroerer, J. C., & Epstein, J. F. (1999). Marijuana initiates and their impact on future drug abuse treatment need. *Drug and Alcohol Dependence, 54*(3), 229-237.

Giancola, P., & Mezzich, A. (2000). Neuropsychological deficits in female adolescents with a substance use disorder: Better accounted for by conduct disorder? *Journal of Studies on Alcohol, 61*(6), 809-817.

Giancola, P. R., Shoal, G. D., & Mezzich, A. C. (2001). Constructive thinking, executive functioning, antisocial behavior, and drug use involvement in adolescent females with a substance use disorder. *Experimental and Clinical Psychopharmacology, 9*(2), 215-227.

Gibbons, F. X., Gerrard, M., & McCoy, S. B. (1995). Prototype perception predicts (lack of) pregnancy prevention. *Personality and Social Psychology Bulletin, 21*(1), 85-93.

Gilbert, M. J. (1991). Acculturation and changes in drinking patterns among Mexican-American women: Implications for prevention. *Alcohol Health and Research World, 15*(3), 234-238.

Gillespie, M. (1999). *Majority of smokers want to quit, consider themselves addicted.* [On-line]. Retrieved January 29, 2002 from the World Wide Web: http://www.gallup.com.

Gillmore, M. R., Catalano, R. F., Morrison, D. M., Wells, E. A., Iritani, B., & Hawkins, J. D. (1990). Racial differences in acceptability and availability of drugs and early initiation of substance use. *American Journal of Drug and Alcohol Abuse, 16*(3-4), 185-206.

Gillmore, M. R., Wells, E. A., Simpson, E. E., Morrison, D. M., Hoppe, M. J., & Wilsdon, A. (1998). Children's beliefs about drinking. *American Journal of Drug and Alcohol Abuse, 24*(1), 131-151.

Glowinski, A. L., Bucholz, K. K., Nelson, E. C., Fu, Q., Madden, P., Reich, W., et al. (2001). Suicide attempts in an adolescent female twin sample. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(11), 1300-1307.

Gold, D. R., Wang, X., Wypij, D., Speizer, F. E., Ware, J. H., & Dockery, D. W. (1996). Effects of cigarette smoking on lung function in adolescent boys and girls. *New England Journal of Medicine, 335*(13), 931-937.

Gold, M. S. (1992). Cocaine (and crack): Clinical aspects. In J. H. Lowinson, P. Ruiz, & R. B. Millman (Eds.), *Substance abuse: A comprehensive textbook* (pp. 205-222). Baltimore, MD: Williams and Wilkens.

Goldbloom, D. S. (1993). Alcohol misuse and eating disorders: Aspects of an association. *Alcohol and Alcoholism, 28*(4), 375-381.

Goldbloom, D. S., Naranjo, C. A., Bremner, K. E., & Hicks, L. K. (1992). Eating disorders and alcohol abuse in women. *British Journal of Addiction, 87*(6), 913-920.

Goldstein, A. O., Sobel, R. A., & Newman, G. R. (1999). Tobacco and alcohol use in G-rated children's animated films. *JAMA, 281*(12), 1131-1136.

Golub, A., & Johnson, B. D. (2001). Variation in youthful risks of progression from alcohol and tobacco to marijuana and to hard drugs across generations. *American Journal of Public Health, 91*(2), 225-232.

Goodman, E., & Capitman, J. (2000). Depressive symptoms and cigarette smoking among teens. *Pediatrics, 106*(4), 748-755.

Gore, S., Aseltine, R. H., & Colten, M. E. (1993). Gender, social-relational involvement, and depression. *Journal of Research on Adolescence, 3*(2), 101-125.

Gottfredson, D. C., & Koper, C. S. (1996). Race and sex differences in the prediction of drug use. *Journal of Consulting and Clinical Psychology, 64*(2), 305-313.

Gouzoulis, E., Daumann, J., Tuchtenhagen, F., Pelz, S., Becker, S., Kunert, H.-J., et al. (2000). Impaired cognitive performance in drug free users of recreational ecstasy (MDMA). *Journal of Neurology, Neurosurgery and Psychiatry, 68*(6), 719-725.

Grant, B. F., & Dawson D.A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse, 9*, 103-110.

Greene, S. M. (1992). *Alcohol, tobacco campaigns frequently aim at women, children, minorities: Marketers target "vulnerable" consumers.* [On-line]. Retrieved June 11, 2002 from the World Wide Web: http://www.drugs.indiana.edu.

Greenfield, S. F. (2002). Women and alcohol use disorders. *Harvard Review of Psychiatry, 10*(2), 76-85.

Griesler, P. C., & Kandel, D. B. (1998). The impact of maternal drinking during and after pregnancy on the drinking of adolescent offspring. *Journal of Studies on Alcohol, 59*(3), 292-304.

Griffin, K. W., Botvin, G. J., Scheier, L. M., Diaz, T., & Miller, N. L. (2000). Parenting practices as predictors of substance use, delinquency, and aggression among urban minority youth: Moderating effects of family structure and gender. *Psychology of Addictive Behaviors, 14*(2), 174-184.

Grodstein, F., Goldman, M. B., & Cramer, D. W. (1994). Infertility in women and moderate alcohol use. *American Journal of Public Health, 84*(9), 1429-1432.

Grube, J. (1993). Alcohol portrayals and alcohol advertising on television: Content and effects on children and adolescents. *Alcohol Health and Research World, 17*(1), 54-60.

Grube, J. W., & Wallack, L. (1994). Television beer advertising and drinking knowledge, beliefs and intentions among schoolchildren. *American Journal of Public Health, 84*(2), 254-259.

Guo, J., Chung, I.-J., Hill, K. G., Hawkins, J. D., Catalano, R. F., & Abbott, R. D. (2002). Developmental relationships between adolescent substance use and risky sexual behavior in young adulthood. *Journal of Adolescent Health, 31*(4), 354-362.

Guthrie, B. J., & Flinchbaugh, L. J. (2001). Gender-specific substance prevention programming: Going beyond just focusing on girls. *Journal of Early Adolescence, 21*(3), 354-372.

Guthrie, B. J., Rotheram, M. J., Genero, N., Amaro, H., Chesney-Lind, M., Flinchbaugh, L. J., et al. (2001). *A guide to understanding female adolescents' substance abuse: Gender and ethnic considerations for prevention and treatment policy* (DHHS Pub. No. (SMA) 00-3309). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

Guthrie, B. J., Young, A. M., Boyd, C. J., & Kintner, E. K. (2001). Dealing with daily hassles: Smoking and African-American adolescent girls. *Journal of Adolescent Health, 29*(2), 109-115.

Guthrie, B. J., Young, A. M., Williams, D. R., Boyd, C. J., & Kintner, E. K. (2002). African American girls' smoking habits and day-to-day experiences with racial discrimination. *Nursing Research, 51*(3), 183-190.

Hallfors, D., & Van Dorn, R. A. (2002). Strengthening the role of two key institutions in the prevention of adolescent substance abuse. *Journal of Adolescent Health, 30*(1), 17-28.

Hampl, J. S., & Betts, N. M. (1999). Cigarette use during adolescence: Effects on nutritional status. *Nutrition Reviews, 57*(7), 215-221.

Han, C., McGue, M. K., & Iacono, W. G. (1999). Lifetime tobacco, alcohol and other substance use in adolescent Minnesota twins: Univariate and multivariate behavioral genetic analyses. *Addiction, 94*(7), 981-993.

Hanna, E. Z., Yi, H., Dufour, M. C., & Whitmore, C. C. (2001). The relationship of early-onset regular smoking to alcohol use, depression, illicit drug use, and other risky behaviors during early adolescence: Results from the youth supplement to the Third National Health and Nutrition Examination Survey. *Journal of Substance Abuse, 13*(3), 265-282.

Hansell, S., White, H. R., & Vali, F. M. (1999). Specific alcoholic beverages and physical and mental health among adolescents. *Journal of Studies on Alcohol, 60*(2), 209-218.

Harlow, B. L., & Signorello, L. B. (2000). Factors associated with early menopause. *Maturitas, 35*(1), 3-9.

Harrell, J. S., Bangdiwala, S. I., Deng, S., Webb, J. P., & Bradley, C. (1998). Smoking initiation in youth: The roles of gender, race, socioeconomics, and developmental status. *Journal of Adolescent Health, 23*(5), 271-279.

Harrison, P. A., Hoffman, N. G., & Edwall, G. E. (1989). Differential drug use patterns among sexually abused adolescent girls in treatment for chemical dependency. *International Journal of the Addictions, 24*(6), 499-514.

Hawkins, J. D., Graham, J. W., Maguin, E., Abbott, R., Hill, K. G., & Catalano, R. F. (1997). Exploring the effects of age of alcohol use initiation and psychosocial risk factors on subsequent alcohol misuse. *Journal of Studies on Alcohol, 58* (3), 280-290.

Heath, A. C., Bucholz, K. K., Madden, P. A. F., Dinwiddie, S. H., Slutske, W. S., Bierut, L. J., et al. (1997). Genetic and environmental contributions to alcohol dependence risk in a national twin sample: Consistency of findings in women and men. *Psychological Medicine, 27*(6), 1381-1396.

Heath, A. C., Slutske, W. S., & Madden, P. A. F. (1997). Gender differences in the genetic contribution to alcoholism risk and to alcohol consumption patterns. In R. W. Wilsnack & S. C. Wilsnack (Eds.), *Gender and alcohol: Individual and social perspectives* (pp. 114-149). New Brunswick, NJ: Rutgers Center of Alcohol Studies.

Hellandsjøbu, E. T., Watten, R. G., Foxcroft, D. R., Ingebrigtsen, J. E., & Relling, G. (2002). Teenage alcohol and intoxication debut: The impact of family socialization factors, living area and participation in organized sports. *Alcohol and Alcoholism, 37*(1), 74-80.

Helzer, J. E., & Pryzbeck, T. R. (1988). The co-occurrence of alcoholism with other psychiatric disorders in the general population and its impact on treatment. *Journal of Studies on Alcohol, 49*(3), 219-224.

Henshaw, S. K. (1998). Unintended pregnancy in the United States. *Family Planning Perspectives, 30*(1), 24-29, 46.

Hill, S. Y., Shen, S., Lowers, L., & Locke, J. (2000). Factors predicting the onset of adolescent drinking in families at high risk for developing alcoholism. *Biological Psychiatry, 48*(4), 265-275.

Himle, J. A., Abelson, J. L., Haghightgou, H., Hill, E. M., Nesse, R. M., & Curtis, G. C. (1999). Effect of alcohol on social phobic anxiety. *American Journal of Psychiatry, 156*(8), 1237-1243.

Hoffman, J. H., Welte, J. W., & Barnes, G. M. (2001). Co-occurrence of alcohol and cigarette use among adolescents. *Addictive Behaviors, 26*(1), 63-78.

Hoffmann, J. P., & Su, S. S. (1998). Stressful life events and adolescent substance use and depression: Conditional and gender differentiated effects. *Substance Use and Misuse, 33*(11), 2219-2262.

Holderness, C. C., Brooks-Gunn, J. , & Warren, M. P. (1994). Co-morbidity of eating disorders and substance abuse: Review of the literature. *International Journal of Eating Disorders, 16*(1), 1-34.

Holmen, T. L., Barrett-Connor, E., Holmen, J., & Bjermer, L. (2000). Health problems in teenage daily smokers versus nonsmokers, Norway, 1995-1997: The Nord-Trondelag Health Study. *American Journal of Epidemiology, 151*(2), 148-155.

Hommer, D. W., Momenan, R., Kaiser, E., & Rawlings, R. R. (2001). Evidence for a gender-related effect of alcoholism on brain volumes. *American Journal of Psychiatry, 158*(2), 198-204.

Hops, H., Davis, B., & Lewin, L. M. (1999). The development of alcohol and other substance use: A gender study of family and peer context. *Journal of Studies on Alcohol, Suppl. 13*, 22-31.

Howell, E. M., Heiser, N., & Harrington, M. (1999). A review of recent findings on substance abuse treatment for pregnant women. *Journal of Substance Abuse Treatment, 16*(3), 195-219.

Hu, F. B., Flay, B. R., Hedeker, D., Siddiqui, O., & Day, L. E. (1995). The influences of friends' and parental smoking on adolescent smoking behavior: The effects of time and prior smoking. *Journal of Applied Social Psychology, 25*(22), 2018-2047.

Hudson, J. I., Weiss, R. D., Pope, H. G., McElroy, S. K., & Mirin, S. M. (1992). Eating disorders in hospitalized substance abusers. *American Journal of Drug and Alcohol Abuse, 18*(1), 75-85.

Huselid, R. F., & Cooper, M. L. (1992). Gender roles as mediators of sex differences in adolescent alcohol use and abuse. *Journal of Health and Social Behavior, 33*(4), 348-362.

Ikejima, K., Enomoto, N., Iimuro, Y., Ikejima, A., Fang, D., Xu, J., et al. (1998). Estrogen increases sensitivity of hepatic Kupffer cells to endotoxin. *American Journal of Physiology, 274*(4, Pt. 1), G669-G676.

Jackson, C., Henriksen, L., & Dickinson, D. (1999). Alcohol-specific socialization, parenting behaviors and alcohol use by children. *Journal of Studies on Alcohol, 60*(3), 362-367.

Jarvis, T. J., Copeland, J., & Walton, L. (1998). Exploring the nature of the relationship between child sexual abuse and substance use among women. *Addiction, 93*(6), 865-875.

Jasinski, J. L., Williams, L. M., & Siegel, J. (2000). Childhood physical and sexual abuse as risk factors for heavy drinking among African-American women: A prospective study. *Child Abuse and Neglect, 24*(8), 1061-1071.

Jessor, R. R., & Jessor, S. L. (1977). *Problem behavior and psychological development.* New York: Academic Press.

Johnson, H. L., & Johnson, P. B. (1997). Understanding early adolescent smoking and drinking. In B. Bain, H. Janzen, J. Paterson, L. Stewin, & A. Yu (Eds.), *Psychology and education in the 21st century: Proceedings of the International Council of Psychologists 54th convention* (pp. 153-158). Edmonton, Canada: IC Press.

Johnson, H. L., & Johnson, P. B. (1998). Possible precursors of gender drinking differences. *Journal of Addictive Diseases, 17*(3), 1-12.

Johnson, J. F., & Leff, M. (1999). Children of substance abusers: Overview of research findings. *Pediatrics, 103*(5, Pt. 2), 1085-1099.

Johnson, N. G., Roberts, M. C., & Worell, J. (1999). *Beyond appearance: A new look at adolescent girls.* Washington, DC: American Psychological Association.

Johnson, P. B., & Johnson, H. L. (1999). Cultural and familial influences that maintain the negative meaning of alcohol. *Journal of Studies on Alcohol, Suppl. 13*, 79-83.

Johnson, P. B., & Johnson, H. L. (2000). Reaffirming the power of parental influence on adolescent smoking and drinking decisions. *Adolescent and Family Health, 1*(1), 37-43.

Johnson, P. B., & Richter, L. (2002). The relationship between smoking, drinking, and adolescents' self-perceived health and frequency of hospitalization: Analyses from the 1997 National Household Survey on Drug Abuse. *Journal of Adolescent Health, 30*(3), 175-183.

Johnson, P. B., Richter, L., & Kleber, H. D. (2002). *Telescoping of drinking-related behaviors: Gender, racial/ethnic, and age comparisons.* Manuscript submitted for publication.

Johnson, R. A., & Hoffmann, J. P. (2000). Adolescent cigarette smoking in U.S. racial/ethnic subgroups: Findings from the National Education Longitudinal Study. *Journal of Health and Social Behavior, 41*(4), 392-407.

Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2001). *Monitoring the Future: National survey results on drug use, 1975-2000: Volume I: Secondary school students* (NIH Pub. No. 01-4924). Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse.

Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Ecstasy use among American teens drops for the first time in recent years, and overall drug and alcohol use also decline in the year after 9/11* [Press release]. Ann Arbor, MI: University of Michigan News and Information Services.

Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Monitoring the Future: National survey results on drug use, 1975-2001: Volume I: Secondary school students* (NIH Pub. No. 02-5106). Bethesda, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.

Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (2002). *Monitoring the Future: National survey results on drug use, 1975-2001: Volume II: College students and adults ages 19-40* (NIH Pub. No. 02-5107). Bethesda, MD : U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Drug Abuse.

Join Together Online. (2001). *Women more susceptible to ecstasy brain damage.* [On-line]. Retrieved April 3, 2002 from the World Wide Web: http://www.jointogether.org.

Join Together Online. (2002). *Walters says anti-drug ad campaign a failure.* [On-line]. Retrieved June 11, 2002 from the World Wide Web: http://www.jointogether.org.

Jones, D. C. (2001). Social comparison and body image: Attractiveness comparisons to models and peers among adolescent girls and boys. *Sex Roles, 45*(9-10), 645-664.

Kafka, R. R., & London, P. (1991). Communication in relationships and adolescent substance use: The influence of parents and friends. *Adolescence, 26*(103), 587-598.

Kandel, D. B. (1975). Stages in adolescent involvement in drug use. *Science, 190*(4217), 912-914.

Kandel, D. B. (1985). On processes of peer influences in adolescent drug use: A developmental perspective. *Advances in Alcohol and Substance Abuse, 4*(3-4), 139-163.

Kandel, D. B., & Andrews, K. (1987). Processes of adolescent socialization by parents and peers. *International Journal of the Addictions, 22*(4), 319-342.

Kandel, D. B., & Chen, K. (2000). Extent of smoking and nicotine dependence in the United States: 1991-1993. *Nicotine and Tobacco Research, 2*(3), 263-274.

Kandel, D. B., Davies, M., Karus, D., & Yamaguchi, K. (1986). The consequences in young adulthood of adolescent drug involvement: An overview. *Archives of General Psychiatry, 43*(8), 746-754.

Kandel, D. B., & Udry, J. R. (1999). Prenatal effects of maternal smoking on daughters' smoking: Nicotine or testosterone exposure? *American Journal of Public Health, 89*(9), 1377-1383.

Kandel, D. B., Wu, P., & Davies, M. (1994). Maternal smoking during pregnancy and smoking by adolescent daughters. *American Journal of Public Health, 84*(9), 1407-1413.

Kaplow, J. B., Curran, P. J., Angold, A., & Costello, E. J. (2001). The prospective relation between dimensions of anxiety and the initiation of adolescent alcohol use. *Journal of Clinical Child Psychology, 30*(3), 316-326.

Kaufman, N. J., Castrucci, B. C., Mowery, P. D., Gerlach, K. K., Emont, S., & Orleans, C. T. (2002). Predictors of change on the smoking uptake continuum among adolescents. *Archives of Pediatrics and Adolescent Medicine, 156*(6), 581-587.

Keefe, K., & Newcomb, M. D. (1996). Demographic and psychosocial risk for alcohol use: Ethnic differences. *Journal of Studies on Alcohol, 57*(5), 521-530.

Kelly, T. M., Lynch, K. G., Donovan, J. E., & Clark, D. B. (2001). Alcohol use disorders and risk factor interactions for adolescent suicidal ideation and attempts. *Suicide and Life-Threatening Behavior, 31*(2), 181-193.

Kendler, K. S., Heath, A. C., Neale, M. C., Kessler, R. C., & Eaves, L. J. (1992). A population-based twin study of alcoholism in women. *JAMA, 268*(14), 1877-1882.

Kendler, K. S., Heath, A. C., Neale, M. C., Kessler, R. C., & Eaves, L. J. (1993). Alcoholism and major depression in women: A twin study of the causes of comorbidity. *Archives of General Psychiatry, 50*(9), 690-698.

Kendler, K. S., Neale, M. C., Heath, A. C., Kessler, R. C., & Eaves, L. J. (1994). A twin-family study of alcoholism in women. *American Journal of Psychiatry, 151*(5), 707-715.

Kendler, K. S., Neale, M. C., MacLean, C. J., Heath, A. C., Eaves, L. J., & Kessler, R. C. (1993). Smoking and major depression: A causal analysis. *Archives of General Psychiatry, 50*(1), 36-43.

Kendler, K. S., Neale, M. C., Sullivan, P., Corey, L. A., Gardner, C. O., & Prescott, C. A. (1999). A population-based twin study in women of smoking initiation and nicotine dependence. *Psychological Medicine, 29*(2), 299-308.

Kendrick, J. S., & Merritt, R. K. (1996). Women and smoking: An update for the 1990s. *American Journal of Obstetrics and Gynecology, 175*(3 (Pt. 1)), 528-535.

Kessler, R. C., Crum, R. M., Warner, L. A., Nelson, C. B., Schulenberg, J., & Anthony, J. C. (1997). Lifetime co-occurrence of DSM-III-R alcohol abuse and dependence with other psychiatric disorders in the National Comorbidity Survey. *Archives of General Psychiatry, 54*(4), 313-321.

Kilbourne, J. (1994). Still killing us softly: Advertising and the obsession with thinness. In P. Fallon, M. A. Katzman, & S. C. Wooley (Eds.), *Feminist perspectives on eating disorders* (pp. 395-418). New York: Guilford Press.

Kilpatrick, D. G., Acierno, R., Saunders, B., Resnick, H. S., Best, C. L., & Schnurr, P. P. (2000). Risk factors for adolescent substance abuse and dependence: Data from a national sample. *Journal of Consulting and Clinical Psychology, 68*(1), 19-30.

Kimm, S. Y. S., Glynn, N. W., Kriska, A. M., Barton, B. A., Kronsberg, S. S., Daniels, S. R., et al. (2002). Decline in physical activity in black girls and white girls during adolescence. *New England Journal of Medicine, 347*(10), 709-715.

King, R. A., Schwab-Stone, M., Flisher, A. J. M., Greenwald, S., Kramer, R. A., Goodman, S. H., et al. (2001). Psychosocial and risk behavior correlates of youth suicide attempts and suicidal ideation. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(7), 837-846.

Klein, J. D., & Wilson, K. M. (2002). Delivering quality care: Adolescents' discussion of health risks with their providers. *Journal of Adolescent Health, 30*(3), 190-195.

Klesges, L. M., & Meyers, A. M. (1989). Smoking, body weight and their effects on smoking behavior: A comprehensive review of the literature. *Psychological Bulletin, 106*(2), 204-230.

Knight, J. R., Sherritt, L., Shrier, L. A., Harris, S. K., & Chang, G. (2002). Validity of the CRAFFT substance abuse screening test among adolescent clinic patients. *Archives of Pediatrics and Adolescent Medicine, 156*(6), 607-614.

Kosterman, R., Hawkins, J. D., Guo, J., Catalano, R. F., & Abbott, R. D. (2000). The dynamics of alcohol and marijuana initiation: Patterns and predictors of first use in adolescence. *American Journal of Public Health, 90*(3), 360-366.

Koval, J. J., Pederson, L. L., Mills, C. A., McGrady, G. A., & Carvajal, S. C. (2000). Models of the relationship of stress, depression, and other psychosocial factors to smoking behavior: A comparison of a cohort of students in grades 6 and 8. *Preventive Medicine, 30*(6), 463-477.

Krahn, D., Kurth, C., Demitrack, C., & Drewnowski, A. (1992). The relationship of dieting severity and bulimic behaviors to alcohol and other drug use in young women. *Journal of Substance Abuse, 4*(4), 341-353.

Krahn, D. D. (1991). The relationship of eating disorders and substance abuse. *Journal of Substance Abuse, 3*(2), 239-253.

Kumpulainen, K. (2000). Psychiatric symptoms and deviance in early adolescence predict heavy alcohol use 3 years later. *Addiction, 95*(12), 1847-1857.

Kumpulainen, K., & Roine, S. (2002). Depressive symptoms at the age of 12 years and future heavy alcohol use. *Addictive Behaviors, 27*(3), 425-436.

Lando, H. A., & Gritz, E. R. (1996). Smoking cessation techniques. *Journal of the American Medical Womens Association, 51*(1-2), 31-34.

Landrine, H., Richardson, J. L., Klonoff, E. A., & Flay, B. (1994). Cultural diversity in the predictors of adolescent cigarette smoking: The relative influence of peers. *Journal of Behavioral Medicine, 17*(3), 331-346.

Laukkanen, E. R., Shemeikka, S. L. , Viinamäki, H. T., Pölkki, P. L., & Lehtonen, J. O. (2001). Heavy drinking is associated with more severe psychosocial dysfunction among girls than boys in Finland. *Journal of Adolescent Health, 28*(4), 270-277.

Laurent, J., Catanzaro, S. J., & Callan, M. K. (1997). Stress, alcohol-related expectancies and coping preferences: A replication with adolescents of the Cooper et al. (1992) model. *Journal of Studies on Alcohol, 58*(6), 644-651.

Leeming, D., Hanley, M., & Lyttle, S. (2002). Young people's images of cigarettes, alcohol and drugs. *Drugs: Education, Prevention and Policy, 9*(2), 169-185.

Leiber, L. (1996). *Commercial and character slogan recall by children aged 9 to 11 years: Budweiser frogs versus Bugs Bunny.* San Francisco: Trauma Foundation, Center on Alcohol Advertising.

Leinwand, D. (2000, August 24). 20% say they used drugs with their mom or dad among reasons: Boomer culture and misguided attempts to bond. *USA Today,* A1.

Lerner, J. V., & Vicary, J. R. (1984). Difficult temperament and drug use: Analyses from the New York Longitudinal Study. *Journal of Drug Education, 14*(1), 1-8.

Levin, J. S., & Taylor, R. J. (1993). Gender and age differences in religiosity among black Americans. *Gerontologist, 33*(1), 16-23.

Lewinsohn, P. M., Rohde, P., & Brown, R. A. (1999). Level of current and past adolescent cigarette smoking as predictors of future substance use disorders in young adulthood. *Addiction , 94*(6), 913-921.

Lewis, C. E., & Bucholz, K. K. (1991). Alcoholism, antisocial behavior and family history. *British Journal of Addiction, 86*(2), 177-194.

Li, X., Feigelman, S., & Stanton, B. (2000). Perceived parental monitoring and health risk behaviors among urban low-income African-American children and adolescents. *Journal of Adolescent Health, 27*(1), 43-48.

Light, H. (1998). Sex differences in adolescent high-risk sexual and drug behaviors. *Psychological Reports, 82*(3, Pt. 2), 1312-1314.

Liu, X., & Kaplan, H. B. (1996). Gender-related differences in circumstances surrounding initiation and escalation of alcohol and other substance use/abuse. *Deviant Behavior, 17*(1), 71-106.

López, R. I. (2002). *The teen health book: A parents' guide to adolescent health and well-being.* New York.: W. W. Norton.

Luczak, S. E., Elvine-Kreis, B., Shea, S. H., Carr, L. G., & Wall, T. L. (2002). Genetic risk for alcoholism relates to level of response to alcohol in Asian-American men and women. *Journal of Studies on Alcohol, 63*(1), 74-82.

Ludwig, K. B., & Pittman, J. F. (1999). Adolescent prosocial values and self-efficacy in relation to delinquency, risky sexual behavior, and drug use. *Youth and Society, 30*(4), 461-482.

Lukas, S. E., Sholar, M., Lundahl, L. H., Lamas, X., Kouri, E., Wines, J. D., et al. (1996). Sex differences in plasma cocaine levels and subjective effects after acute cocaine administration in human volunteers. *Psychopharmacology, 125*(4), 346-354.

Lundahl, L. H., & Lukas, S. E. (2001). The impact of familial alcoholism on alcohol reactivity in female social drinkers. *Experimental and Clinical Psychopharmacology, 9*(1), 101-109.

Luthar, S. S., & D'Avanzo, K. (1999). Contextual factors in substance use: A study of suburban and inner-city adolescents. *Development and Psychopathology, 11*(4), 845-867.

Luthar, S. S., & Becker, B. E. (2002). Privileged by pressured? A study of affluent youth. *Child Development, 73*(5), 1593-1610.

Lye, D. N., & Waldron, I. (1998). Relationships of substance use to attitudes toward gender roles, family and cohabitation. *Journal of Substance Abuse, 10*(2), 185-198.

Maddahian, E., Newcomb, M. D., & Bentler, P. M. (1988). Risk factors for substance use: Ethnic differences among adolescents. *Journal of Substance Abuse, 1*(1), 11-23.

Maes, H. H., Woodard, C. E., Murrelle, L., Meyer, J. M., Silberg, J. L., Hewitt, J. K., et al. (1999). Tobacco, alcohol and drug use in eight-to-sixteen-year-old twins: The Virginia Twin Study of Adolescent Behavioral Development. *Journal of Studies on Alcohol, 60*(3), 293-305.

Mann, K., Batra, A., Günthner, A., & Schroth, G. (1992). Do women develop alcoholic brain damage more readily than men? *Alcoholism: Clinical and Experimental Research, 16*(6), 1052-1056.

Marsiglia, F. F., Kulis, S., & Hecht, M. L. (2001). Ethnic labels and ethnic identity as predictors of drug use among middle school students in the southwest. *Journal of Research on Adolescence, 11*(1), 21-48.

Martin, C., Logan, T. K., Leukefeld, C., Milich, R., Omar, H., & Clayton, R. (2001). Adolescent and young adult substance use: Associated with sensation seeking, self esteem and retrospective report of early pubertal onset: A preliminary examination. *International Journal of Adolescent Medicine and Health, 13*(3), 211-219.

Martin, C. A., Logan, T. K., Portis, C., Leukefeld, C. G., Lynam, D., Staton, M., et al. (2001). The association of testosterone with nicotine use in young adult females. *Addictive Behaviors, 26*(2), 279-283.

Martin, C. S., Lynch, K. G., Pollock, N. K., & Clark, D. B. (2000). Gender differences and similarities in the personality correlates of adolescent alcohol problems. *Psychology of Addictive Behaviors, 14*(2), 121-133.

Martin, S. E., Snyder, L. B., Hamilton, M., Fleming-Milici, F., Slater, M. D., Stacy, A., et al. (2002). Alcohol advertising and youth. *Alcoholism: Clinical and Experimental Research, 26*(6), 900-906.

Mason, W. A., & Windle, M. (2002). A longitudinal study of the effects of religiosity on adolescent alcohol use and alcohol-related problems. *Journal of Adolescent Research, 17*(4), 346-363.

Mathews, T. J. (2001). Smoking during pregnancy in the 1990s. *National Vital Statistics Report, 49*(7).

McArdle, P., Wiegersma, A., Gilvarry, E., Kolte, B., McCarthy, S., Fitzgerald, M., et al. (2002). European adolescent substance use: The roles of family structure, function and gender. *Addiction, 97*(3), 329-336.

McGue, M. (1997). A behavioral-genetic perspective on children of alcoholics. *Alcohol Health and Research World, 21*(3), 210-217.

McGue, M., Pickens, R. W., & Svikis, D. S. (1992). Sex and age effects on the inheritance of alcohol problems: A twin study. *Journal of Abnormal Psychology, 101*(1), 3-17.

McMaster, L. E., & Wintre, M. (1996). The relations between perceived parental reciprocity, perceived parental approval, and adolescent substance use. *Journal of Adolescent Research, 11*(4), 440-460.

Meller, W. H., Rinehart, R., Cadoret, R. J., & Troughton, E. (1988). Specific familial transmission in substance abuse. *International Journal of the Addictions, 23*(10), 1029-1039.

Merikangas, K. R., Stolar, M., Stevens, D. E., Goulet, J., Preisig, M. A., Fenton, B., et al. (1998). Familial transmission of substance use disorders. *Archives of General Psychiatry, 55*(11), 973-979.

Mezzich, A. C., Giancola, P. R., Tarter, R. E., Lu, S., Parks, S. M., & Barrett, C. M. (1997). Violence, suicidality, and alcohol/drug use involvement in adolescent females with a psychoactive substance use disorder and controls. *Alcoholism: Clinical and Experimental Research, 21*(7), 1300-1307.

Michell, L., & Amos, A. (1997). Girls, pecking order and smoking. *Social Science and Medicine, 44*(12), 1861-1869.

Milam, J. E., Sussman, S., Ritt-Olson, A., & Dent, C. W. (2000). Perceived invulnerability and cigarette smoking among adolescents. *Addictive Behaviors, 25*(1), 71-80.

Miles, D. R., van den Bree, M. B. M., & Pickens, R. W. (2002). Sex differences in shared genetic and environmental influences between conduct disorder symptoms and marijuana use in adolescents. *American Journal of Medical Genetics, 114*(2), 159-168.

Miller, A. S., & Hoffmann, J. P. (1995). Risk and religion: An explanation of gender differences in religiosity. *Journal for the Scientific Study of Religion, 34*(1), 63-75.

Miller, B. A., Downs, W. R., & Testa, M. (1993). Interrelationships between victimization experiences and women's alcohol use. *Journal of Studies on Alcohol, Suppl. 11*, 109-117.

Miller, L., Davies, M., & Greenwald, S. (2000). Religiosity and substance use and abuse among adolescents in the National Comorbidity Survey. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(9), 1190-1197.

Mitchell, J. E., Pyle, R. L., Specker, S., & Hanson, K. (1992). Eating disorders and chemical dependency. In J. Yager, H. E. Gwirtsman, & C. K. Edelstein (Eds.), *Special problems in managing eating disorders* (pp. 1-14). Washington, DC: American Psychiatric Press.

Mitchell, J. L. (1995). *Pregnant, substance-using women: Treatment Improvement Protocol (TIP) series 2* (DHHS Pub. No. (SMA) 95-3056). Rockville, MD: U.S. Department of Health and Human

Services, Public Health Service, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment.

Mitic, W. R., McGuire, D. P., & Neumann, B. (1985). Perceived stress and adolescents' cigarette use. *Psychological Reports, 57*(3, Pt. 2), 1043-1048.

Moon, D. G., Hecht, M. L., Jackson, K. M., & Spellers, R. E. (1999). Ethnic and gender differences and similarities in adolescent drug use and refusals of drug offers. *Substance Use and Misuse, 34*(8), 1059-1083.

Mooney, D. K., Fromme, K., Kivlahan, D. R., & Marlatt, G. A. (1987). Correlates of alcohol consumption: Sex, age, and expectancies relate differentially to quantity and frequency. *Addictive Behaviors, 12*(3), 235-240.

Morgan, M. J. (2000). Ecstasy (MDMA): A review of its possible persistent psychological effects. *Psychopharmacology, 152*(3), 230-248.

Morse, J., & Bower, A. (2002, April 1). Women on a binge. *Time, 159*(13), 56-61.

Moss, H. B., & Lynch, K. G. (2001). Comorbid disruptive behavior disorder symptoms and their relationship to adolescent alcohol use disorders. *Drug and Alcohol Dependence, 64*(1), 75-83.

Most doctors don't counsel teens about smoking. (1999). *Alcoholism and Drug Abuse Weekly, 11*(44), 8.

National Association for Children of Alcoholics. (2002). *Children of alcoholics: Important facts.* [On-line]. Retrieved November 6, 2002 from the World Wide Web: http://www.health.org.

National Center for Health Statistics. (2001). *Healthy people 2000 final review.* Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.

National Center for Injury Prevention and Control. (2002). *Suicide in the United States.* [On-line]. Retrieved July 18, 2001 from the World Wide Web: http://www.cdc.gov/ncipc.

National Clearinghouse for Alcohol and Drug Information. (1997). *Drugs of abuse: Categories, descriptions, effects, symptoms of overdose, withdrawal symptoms, and indications of misuse.* Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, National Clearinghouse for Alcohol and Drug Information.

National Institute on Alcohol Abuse and Alcoholism. (1990). Alcohol and women. *Alcohol Alert, 10.*

National Institute on Alcohol Abuse and Alcoholism. (1999). Are women more vulnerable to alcohol's effects? *Alcohol Alert, 46.*

National Institute on Alcohol Abuse and Alcoholism. (2000). *Tenth special report to the U.S. Congress on alcohol and health: Highlights from current research from the Secretary of Health and Human Services* (NIH Pub. No. 00-1583). Rockville, MD: U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism.

National Institute on Drug Abuse. (1999). *Drug abuse and addiction research: 25 years of discovery to advance the health of the public: The sixth triennial report to Congress from the Secretary of Health and Human Services.* Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse.

National Institute on Drug Abuse. (2000). Gender differences in drug abuse risks and treatment. *NIDA Notes, 15*(4), 6-7.

National Institute on Drug Abuse. (2001). *Prescription drugs: Abuse and addiction* (NIH Pub. No. 01-4881). Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse.

National Institute on Drug Abuse. (2002). *Advances in research on women's health and gender differences.* [On-line]. Retrieved March 17, 2002 from the World Wide Web: http://165.112.78.61.

National Institute on Drug Abuse. (2002). *Marijuana abuse* (NIH Pub. No. 02-3859). Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse.

National Institute on Drug Abuse. (2002). *NIDA infofacts: Marijuana.* [On-line]. Retrieved October 26, 2001 from the World Wide Web: http://www.nida.nih.gov.

National Institute on Drug Abuse. (2002). *Overview of NIDA research on women's health and gender differences.* [On-line]. Retrieved March 17, 2002 from the World Wide Web: http://165.112.78.61.

Needle, R., McCubbin, H., Wilson, M., Reineck, R., Lazar, A., & Mederer, H. (1986). Interpersonal influences in adolescent drug use: The role of older siblings, parents, and peers. *International Journal of the Addictions, 21*(7), 739-766.

Neher, L. S., & Short, J. L. (1998). Risk and protective factors for children's substance use and antisocial behavior following parental divorce. *American Journal of Orthopsychiatry, 68*(1), 154-161.

Nesbitt, M. N., & Penn, N. E. (2000). Gender stereotypes after thirty years: A replication of Rosenkrantz, et al. (1968). *Psychological Reports, 87*(2), 493-511.

Neve, R. J. M., Lemmens, P. H., & Drop, M. J. (1997). Gender differences in alcohol use and alcohol problems: Mediation by social roles and gender-role attitudes. *Substance Use and Misuse, 32*(11), 1439-1459.

New Standards. (1993). *Betty Ford Center treatment outcomes November 1993.* St. Paul, MN: New Standards.

Newcomb, M. D. (1987). Consequences of teenage drug use: The transition from adolescence to young adulthood. In S. W. Sadava (Ed.), *Drug use and psychological theory* (pp. 25-60). New York: Haworth Press.

Newcomb, M. D., & Bentler, P. M. (1987). The impact of late adolescent substance use on young adult health status and utilization of health services: A structural-equation model over four years. *Social Science and Medicine, 24*(1), 71-82.

Newcomb, M. D., & Bentler, P. M. (1988). Impact of adolescent drug use and social support on problems of young adults: A longitudinal study. *Journal of Abnormal Psychology, 97*(1), 64-75.

Nielsen Media Research. (2000). *2000 report on television: The first 50 years.* New York: Nielsen Media Research.

Noel, N. E., & Lisman, S. A. (1980). Alcohol consumption by college women following exposure to unsolvable problems: Learning helplessness or stress-induced drinking. *Behavior Research and Therapy, 18*(5), 429-440.

Nolen-Hoeksema, S. (2001). Gender differences in depression. *Current Directions in Psychological Science, 10*(5), 173-176.

Noller, P. (1995). Parent-adolescent relationships. In M. A. Fitzpatrick & A. L. Vangelisti (Eds.), *Explaining family interactions* (pp. 77-111). Thousand Oaks, CA: Sage.

Novacek, J., Raskin, R., & Hogan, R. (1991). Why do adolescents use drugs? Age, sex, and user differences. *Journal of Youth and Adolescence, 20*(5), 475-492.

Oetting, E. R., & Beauvais, F. (1987). Common elements in youth drug abuse: Peer clusters and other psychosocial factors. *Journal of Drug Issues, 17*(1), 133-151.

Oetting, E. R., & Beauvais, F. (1987). Peer cluster theory, socialization, characteristics, and adolescent drug use: A path analysis. *Journal of Counseling Psychology, 34*(2), 205-213.

Office of Applied Studies. (2001). *Availability of illicit drugs to females aged 12 to 17.* [On-line]. Retrieved November 30, 2001 from the World Wide Web: http://www.drugabusestatistics.samhsa.gov.

Office of Applied Studies. (2001). *Summary of findings from the 2000 National Household Survey on Drug Abuse* (DHHS Pub. No. (SMA) 01-3549). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

Office of Applied Studies. (2002). *Detailed tables for 2000 National Household Survey on Drug Abuse: Dependence, abuse, and treatment 5.1 to 5.66: Prevalence estimates.* [On-line]. Retrieved October 28, 2002 from the World Wide Web: http://www.samhsa.gov/oas.

Office of Applied Studies. (2002). *Low rates of alcohol use among Asian youths: The NHSDA report* [Fact sheet]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

Office of Applied Studies. (2002). *Results from the 2001 National Household Survey on Drug Abuse: Volume I: Summary of national findings* (DHHS Pub. No. (SMA) 02-3758). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

Office of Applied Studies. (2002). *Substance use among pregnant women during 1999 and 2000: The NHSDA report* [Fact sheet]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

Office of Applied Studies. (2002). *Summary of findings from the 2001 National Household Survey on Drug Abuse: Volume II: Technical appendices and selected data tables* (DHHS Pub. No. (SMA) 02-3759). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

Office of Communication, Centers for Disease Control and Prevention. (1997). *Facts about cigarette mortality.* [On-line]. Retrieved May 14, 2002 from the World Wide Web: http://www.cdc.gov.

Office of National Drug Control Policy & National Youth Anti-Drug Media Campaign. (2002). *Investing in our nation's youth: The National Youth Anti-Drug Media Campaign surpasses expectations in phase II.* [On-line]. Retrieved June 11, 2002 from the World Wide Web: http://www.mediacampaign.org.

Office of National Drug Control Policy & Substance Abuse and Mental Health Services Administration. (1999). *Substance use in popular movies and music.* [On-line]. Retrieved December 4, 2001 from the World Wide Web: http://www.mediacampaign.org.

Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

Office of the Surgeon General. (2001). *Women and smoking: A report of the Surgeon General: At a glance* (GPO Item No. 0483-L-06). Washington, DC: U.S. Government Printing Office.

Ogden, J., & Fox, P. (1994). Examination of the use of smoking for weight control in restrained and unrestrained eaters. *International Journal of Eating Disorders, 16*(2), 177-185.

Ogletree, S. M., Williams, S., Raffeld, P., Mason, B., & Fricke, K. (1990). Female attractiveness and eating disorders: Do children's television commercials play a role? *Sex Roles, 22*(11-12), 791-797.

Olds, R. S., & Thombs, D. L. (2001). The relationship of adolescent perceptions of peer norms and parent involvement to cigarette and alcohol use. *Journal of School Health, 71*(6), 223-228.

Ouellette, J. A., Gerrard, M., Gibbons, F. X., & Reis-Bergan, M. (1999). Parents, peers, and prototypes: Antecedents of adolescent alcohol expectancies, alcohol consumption, and alcohol-related life problems in rural youth. *Psychology of Addictive Behaviors, 13*(3), 183-197.

Ozegovic, J. J., Bikos, L. H., & Szymanski, D. M. (2001). Trends and predictors of alcohol use among undergraduate female students. *Journal of College Student Development, 42*(5), 447-455.

Page, R. M., Hammermeister, J., & Roland, M. (2002). Are high school students accurate or clueless in estimating substance use among peers? *Adolescence, 37*(147), 567-573.

Paone, D., Chavkin, W., Willets, I., & DesJarlais, D. (1992). The impact of sexual abuse: Implications for drug treatment. *Journal of Women's Health, 1*(2), 149-153.

Parent, E. C., & Newman, D. L. (1999). The role of sensation-seeking in alcohol use and risk-taking behavior among college women. *Journal of Alcohol and Drug Education, 44*(2), 12-28.

Parker, D. A., & Harford, T. C. (1992). Gender-role attitudes, job competition and alcohol consumption among women and men. *Alcoholism: Clinical and Experimental Research, 16*(2), 159-165.

Partnership for a Drug-Free America. (2000). *More parents talking with kids about drugs more often, and appear to be having an impact: Many parents, however, still struggle with what to say; one in three parents doubt they're getting through* [Press release]. New York: Partnership for a Drug-Free America.

Partnership for a Drug-Free America. (2000). *Partnership Attitude Tracking Study 1999: Parents.* [On-line]. Retrieved April 15, 2002 from the World Wide Web: http://www.drugfreeamerica.org.

Partnership for a Drug-Free America. (2002). *Wendy print advertisement.* [On-line]. Retrieved November 11, 2002 from the World Wide Web: http://www.drugfreeamerica.org.

Patton, G. C., Carlin, J. B., Coffey, C., Wolfe, R., Hibbert, M., & Bowes, G. (1998). The course of early smoking: A population-based cohort study over three years. *Addiction, 93*(8), 1251-1260.

Patton, G. C., Coffey, C., Carlin, J. B., Degenhardt, L., Lynskey, M., & Hall, W. (2002). Cannabis use and mental health in young people: Cohort study. *British Medical Journal, 325*(7374), 1195-1198.

Patton, G. C., Hibbert, M., Rosier, M. J., Carlin, J. B., Caust, J., & Bowes, G. (1996). Is smoking associated with depression and anxiety in teenagers? *American Journal of Public Health, 86*(2), 225-230.

Paulus, D., Saint-Remy, A., & Jeanjean, M. (2000). Oral contraception and cardiovascular risk factors during adolescence. *Contraception, 62*(3), 113-116.

Pedersen, W., Mastekaasa, A., & Wichstrom, L. (2001). Conduct problems and early cannabis initiation: A longitudinal study of gender differences. *Addiction, 96*(3), 415-431.

Pedersen, W., & Skrondal, A. (1996). Alcohol and sexual victimization: A longitudinal study of Norwegian girls. *Addiction, 91*(4), 565-581.

Perkins, K. A. (1995). Individual variability in responses to nicotine. *Behavior Genetics, 25*(2), 119-132.

Perkins, K. A. (2001). Smoking cessation in women: Special considerations. *CNS Drugs, 15*(5), 391-411.

Perkins, K. A., Marcus, M. D., Levine, M. D., D'Amico, D., Miller, A., Broge, M., et al. (2001). Cognitive-behavioral therapy to reduce weight concerns improves smoking cessation outcome in weight-concerned women. *Journal of Consulting and Clinical Psychology, 69*(4), 604-613.

Petersen, A. C., & Hamburg, B. A. (1986). Adolescence: A developmental approach to problems and psychopathology. *Behavior Therapy, 17*(5), 480-499.

Peterson, P. L., Hawkins, J. D., Abbott, R. D., & Catalano, R. F. (1994). Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by black and white adolescents. *Journal of Research on Adolescence, 4*(2), 203-227.

Phoenix House. (2000). *Phoenix House survey of treatment residents.* Unpublished manuscript.

Piazza, N. J., Vrbka, J. L., & Yeager, R. D. (1989). Telescoping of alcoholism in women alcoholics. *International Journal of the Addictions, 24*(1), 19-28.

Pierce, J. P., & Gilpin, E. A. (1995). A historical analysis of tobacco marketing and the uptake of smoking by youth in the United States: 1890-1977. *Health Psychology, 14*(6), 500-508.

Pierce, J. P., Lee, L., & Gilpin, E. A. (1994). Smoking initiation by adolescent girls, 1944 through 1988: An association with targeted advertising. *JAMA, 271*(8), 608-611.

Pipher, M. (1994). *Reviving Ophelia: Saving the selves of adolescent girls.* New York: Ballantine.

Pollock, V. E., Schneider, L. S., Gabrielli, W. F., & Goodwin, D. W. (1987). Sex of parent and offspring in the transmission of alcoholism: A meta-analysis. *Journal of Nervous and Mental Disease, 175*(11), 668-673.

Poole, M. E., & Gelder, A. J. (1984). Family cohesiveness and adolescent autonomy in decision-making. *Australian Journal of Sex, Marriage and Family, 5*(2), 65-75.

Prescott, C. A., Aggen, S. H., & Kendler, K. S. (1999). Sex differences in the sources of genetic liability to alcohol abuse and dependence in a population-based sample of U.S. twins. *Alcoholism: Clinical and Experimental Research, 23*(7), 1136-1144.

Prescott, C. A., Aggen, S. H., & Kendler, K. S. (2000). Sex-specific genetic influences on the comorbidity of alcoholism and major depression in a population-based sample of US twins. *Archives of General Psychiatry, 57*(8), 803-811.

Prescott, C. A., Neale, M. C., Corey, L. A., & Kendler, K. S. (1997). Predictors of problem drinking and alcohol dependence in a population-based sample of female twins. *Journal of Studies on Alcohol, 58*(2), 167-181.

Prokopcáková, A. (1998). Drug experimenting and pubertal maturation in girls. *Studia Psychologica, 40*(4), 287-290.

Pulkkinen, L., & Pitkänen, T. A. (1994). A prospective study of the precursors to problem drinking in young adulthood. *Journal of Studies on Alcohol, 55*(5), 578-587.

Quattrocki, E., Baird, A., & Yurgelun-Todd, D. (2000). Biological aspects of the link between smoking and depression. *Harvard Review of Psychiatry, 8*(3), 99-110.

Raap, D. K., Morin, B., Medici, C. N., & Smith, R. F. (2000). Adolescent cocaine and injection stress effects on the estrous cycle. *Physiology and Behavior, 70*(5), 417-424.

Randall, C. L., Roberts, J. S., Del Boca, F. K., Carroll, K. M., Connors, G. J., & Mattson, M. E. (1999). Telescoping of landmark events associated with drinking: A gender comparison. *Journal of Studies on Alcohol, 60*(2), 252-260.

Rao, U., Daley, S., & Hammen, C. (2000). Relationship between depression and substance use disorders in adolescent women during the transition to adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(2), 215-222.

Rao, U., Ryan, N. D., Dahl, R. E., Birmaher, B., Rao, R., Williamson, D. E., et al. (1999). Factors associated with the development of substance use disorder in depressed adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(9), 1109-1117.

Read, C. R. (1991). Gender distribution in programs for the gifted. *Roeper Review, 13*(4), 188-193.

Reifman, A., Barnes, G. M., Dintcheff, B. A., Farrell, M. P., & Uhteg, L. (1998). Parental and peer influences on the onset of heavier drinking among adolescents. *Journal of Studies on Alcohol, 59*(3), 311-317.

Reinherz, H. Z., Giaconia, R. M., Hauf, A. M. C., Wasserman, M. S. , & Paradis, A. D. (2000). General and specific childhood risk factors for depression and drug disorders by early adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 39*(2), 223-231.

Reneman, L., Booij, J., de Bruin, K., Reitsma, J. B., de Wolff, F. A., Gunning, W. B., et al. (2001). Effects of dose, sex, and long-term abstention from use on toxic effects of MDMA (ecstasy) on brain serotonin neurons. *Lancet, 358*(9296), 1864-1869.

Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., et al. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *JAMA, 278*(10), 823-832.

Rhodes, J. E., & Jason, L. A. (1988). *Preventing substance abuse among children and adolescents.* New York: Pergamon Books.

Richardson, J. L., Dwyer, K., McGuigan, K., Hansen, W. B., Dent, C., Anderson Johnson, C., et al. (1989). Substance use among eighth-grade students who take care of themselves after school. *Pediatrics, 84*(3), 556-566.

Richter, L., & Kruglanski, A. W. (in press). Motivated closed-mindedness and the emergence of culture. In M. Schaller & C. R. Crandall (Eds.), *The psychological foundations of culture*. Mahway, NJ: Erlbaum.

Richter, L., & Richter, D. M. (2001). Exposure to parental tobacco and alcohol use: Effects on children's health and development. *American Journal of Orthopsychiatry, 71*(2), 182-203.

Rigotti, N. A., Lee, J. E., & Wechsler, H. (2000). US college students' use of tobacco products: Results of a national survey. *JAMA, 284*(6), 699-705.

Ripple, C. H., & Luthar, S. S. (1996). Familial factors in illicit drug abuse: An interdisciplinary perspective. *American Journal of Drug and Alcohol Abuse, 22*(2), 147-172.

Roberts, C., Blakey, V., & Tudor-Smith, C. (1999). The impact of "alcopops" on regular drinking by young people in Wales. *Drugs: Education, Prevention and Policy, 6*(1), 7-15.

Roberts, D. F., & Christenson, P. G. (2000). *"Here's looking at you, kid": Alcohol, drugs and tobacco in the entertainment media: A literature review prepared by the National Center on Addiction and Substance Abuse at Columbia University.* Menlo Park, CA: Henry J. Kaiser Family Foundation.

Robins, L. N., & Price, R. K. (1991). Adult disorders predicted by childhood conduct problems: Results from the NIMH Epidemiologic Catchment Area Project. *Psychiatry, 54*(2), 116-132.

Robinson, L. A., & Klesges, R. C. (1997). Ethnic and gender differences in risk factors for smoking onset. *Health Psychology, 16*(6), 499-505.

Rodgers-Farmer, A. Y. (2000). Parental monitoring and peer group association: Their influence on adolescent substance use. *Journal of Social Service Research, 27*(2), 1-18.

Rohde, P., Lewinsohn, P. M., Kahler, C. W., Seeley, J. R., & Brown, R. A. (2001). Natural course of alcohol use disorders from adolescence to young adulthood. *Journal of the American Academy of Child and Adolescent Psychiatry, 40*(1), 83-90.

Rohde, P., Lewinsohn, P. M., & Seeley, J. R. (1996). Psychiatric comorbidity with problematic alcohol use in high school students. *Journal of the American Academy of Child and Adolescent Psychiatry, 35*(1), 101-109.

Rose, R. J. (1998). A developmental behavior-genetic perspective on alcoholism risk. *Alcohol Health and Research World, 22*(2), 131-143.

Ross, H. E., & Ivis, F. (1999). Binge eating and substance use among male and female adolescents. *International Journal of Eating Disorders, 26*(3), 245-260.

Rounds-Bryant, J. L., Kristiansen, P. L., Fairbank, J. A., & Hubbard, R. L. (1998). Substance use, mental disorders, abuse, and crime: Gender comparisons among a national sample of adolescent drug treatment clients. *Journal of Child and Adolescent Substance Abuse, 7*(4), 19-34.

Samet, J. M., & Yoon, S. Y. (2001). *Women and the tobacco epidemic: Challenges for the 21st century.* Geneva, Switzerland: World Health Organization, Institute for Global Tobacco Control, Johns Hopkins School of Public Health.

Sansone, R. A., & Sansone, L. A. (1994). Bulimia nervosa: Medical complications. In I. Alexander-Mott & D. B. Lumsden (Eds.), *Understanding eating disorders: Anorexia nervosa, bulimia nervosa, and obesity* (pp. 181-201). Washington, DC: Taylor and Francis.

Santisteban, D. A., Tejeda, M., Dominicis, C., & Szapocznik, J. (1999). An efficient tool for screening for maladaptive family functioning in adolescent drug abusers: The Problem Oriented Screening Instrument for Teenagers. *American Journal of Drug and Alcohol Abuse, 25*(2), 197-206.

Santor, D. A., Messervey, D., & Kusumakar, V. (2000). Measuring peer pressure, popularity, and conformity in adolescent boys and girls: Predicting school performance, sexual attitudes, and substance abuse. *Journal of Youth and Adolescence, 29*(2), 163-182.

Sargent, J. D., Beach, M. L., Dalton, M., Mott, L. A., Tickle, J. J., Ahrens, M. B., et al. (2001). Effect of seeing tobacco use in films on trying smoking among adolescents: Cross sectional study. *British Medical Journal, 323*(7326), 1-6.

Sarigiani, P. A., Ryan, L., & Petersen, A. C. (1999). Prevention of high-risk behaviors in adolescent women. *Journal of Adolescent Health, 25*(2), 109-119.

Sato, N., Lindros, K. O., Baraona, E., Ikejima, K., Mezey, E., Järveläinen, H. A., et al. (2001). Sex difference in alcohol-related organ injury. *Alcoholism: Clinical and Experimental Research, 25*(5), 40S-45S.

Schall, M., Kemeny, A., & Maltzman, I. (1992). Factors associated with alcohol use in university students. *Journal of Studies on Alcohol, 53*(2), 122-136.

Scheir, L. M., Botvin, G. J., Griffin, K. W., & Diaz, T. (2000). Dynamic growth models of self-esteem and adolescent alcohol use. *Journal of Early Adolescence, 20*(2), 178-209.

Schoen, C., Davis, K., Collins, K. S., Greenberg, L., Des Roches, C., & Abrams, M. (1997). *The Commonwealth Fund Survey of the Health of Adolescent Girls.* New York: Commonwealth Fund.

Schuckit, M. A., Anthenelli, R. M. , Bucholz, K. K., Hesselbrock, V. M., & Tipp, J. (1995). The time course of development of alcohol-related problems in men and women. *Journal of Studies on Alcohol, 56*(2), 218-255.

Schuckit, M. A., Smith, T. L., Kalmijn, J., Tsuang, J., Hesselbrock, V., & Bucholz, K. (2000). Response to alcohol in daughters of alcoholics: A pilot study and a comparison with sons of alcoholics. *Alcohol and Alcoholism, 35*(3), 242-248.

Schulenberg, J., Maggs, J. L., Dielman, T. E., Leech, S. L., Kloska, D. D., Shope, J. T., et al. (1999). On peer influences to get drunk: A panel study of young adolescents. *Merrill-Palmer Quarterly, 45*(1), 108-142.

Schwartz, R. H., Milteer, R., & LeBeau, M. A. (2000). Drug-facilitated sexual assault ("date rape"). *Southern Medical Journal, 93*(6), 558-561.

Schwartz, R. H., & Wirtz, P. W. (1990). Potential substance abuse: Detection among adolescent patients. *Clinical Pediatrics, 29*(1), 38-43.

Secker-Walker, R. H., Flynn, B. S. , Solomon, L. J., Skelly, J. M., Dorwaldt, A. L., & Ashikaga, T. (2000). Helping women quit smoking: Results of a community intervention program. *American Journal of Public Health, 90*(6), 940-946.

Seguire, M., & Chalmers, K. I. (2000). Late adolescent female smoking. *Journal of Advanced Nursing, 31*(6), 1422-1429.

Selnow, G. W. (1987). Parent-child relationships and single and two parent families: Implications for substance abuse. *Journal of Drug Education, 17*(4), 315-326.

Seltzer, V. (2000). Smoking and women's health. *International Journal of Gynecology and Obstetrics, 70*(1), 159-163.

Sen, B. (2002). Does alcohol-use increase the risk of sexual intercourse among adolescents? Evidence from the NLSY97. *Journal of Health Economics, 21*(6), 1085-1093.

Shafer, M., & Boyer, C. B. (1991). Psychosocial and behavioral factors associated with risk of sexually transmitted diseases, including human immunodeficiency virus infection, among urban high school students. *Journal of Pediatrics, 119*(5), 826-833.

Shedler, J., & Block, J. (1990). Adolescent drug use and psychological health: A longitudinal inquiry. *American Psychologist, 45*(5), 612-630.

Siddiqui, O., Mott, J., Anderson, T., & Flay, B. (1999). The application of Poisson random-effects regression models to the analyses of adolescents' current level of smoking. *Preventive Medicine, 29*(2), 92-101.

Simantov, E., Schoen, C., & Klein, J. D. (2000). Health-compromising behaviors: Why do adolescents smoke or drink? Identifying underlying risk and protective factors. *Archives of Pediatrics and Adolescent Medicine, 154*(10), 1025-1033.

Simons, J., Correia, C. J., & Carey, K. B. (2000). A comparison of motives for marijuana and alcohol use among experienced users. *Addictive Behaviors, 25*(1), 153-160.

Simons-Morton, B., Haynie, D. L., Crump, A. D., Eitel, P., & Saylor, K. E. (2001). Peer and parent influences on smoking and drinking among early adolescents. *Health Education and Behavior, 28*(1), 95-107.

Singer, M. I., Petchers, M. K., & Hussey, D. (1989). The relationship between sexual abuse and substance abuse among psychiatrically hospitalized adolescents. *Child Abuse and Neglect, 13*(3), 319-325.

Siqueira, L., Diab, M., Bodian, C., & Rolnitzky, L. (2000). Adolescents becoming smokers: The roles of stress and coping methords. *Journal of Adolescent Health, 27*(6), 399-408.

Slovic, P. (2000). What does it mean to know a cumulative risk? Adolescents' perceptions of short-term and long-term consequences of smoking. *Journal of Behavioral Decision Making, 13*(2), 259-266.

Slutske, W. S., Heath, A. C., Dinwiddie, S. H., Madden, P. A. F., Bucholz, K. K., Dunne, M. P., et al. (1998). Common genetic risk factors for conduct disorder and alcohol dependence. *Journal of Abnormal Psychology, 107*(3), 363-374.

Smith-Warner, S. A., Spiegelman, D., Yaun, S.-S., van den Brandt, P. A., Folsom, A. R., Goldbohm, A., et al. (1998). Alcohol and breast cancer in women: A pooled analysis of cohort studies. *JAMA, 279*(7), 535-540.

Springer, J. F., Sambrano, S., Sale, E., Kasim, R., & Hermann, J. (2002). *The National Cross-site Evaluation of High-risk Youth Programs: Making prevention effective for adolescent boys and girls: Gender differences in substance use and prevention* (DHHS Pub. No. SMA-25-01). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Prevention.

Stacy, A. W., Galaif, E. R., Sussman, S., & Dent, C. W. (1996). Self-generated drug outcomes in high-risk adolescents. *Psychology of Addictive Behaviors, 10*(1), 18-27.

Staton, M., Leukefeld, C., Logan, T. K., Zimmerman, R., Lynam, D., Milich, R., et al. (1999). Gender differences in substance use and initiation of sexual activity. *Population Research and Policy Review, 18*(1-2), 89-100.

Stein, J. A., Newcomb, M. D., & Bentler, P. M. (1996). Initiation and maintenance of tobacco smoking: Changing personality correlates in adolescence and young adulthood. *Journal of Applied Social Psychology, 26*(2), 160-187.

Steinberg, L., Fletcher, A., & Darling, N. (1994). Parental monitoring and peer influences on adolescent substance use. *Pediatrics, 93*(6, Pt. 2), 1060-1064.

Stewart, C. (2001). The influence of spirituality on substance use of college students. *Journal of Drug Education, 31*(4), 343-351.

Stewart, S. H., Agelopoulos, M., Baker, J. M., & Boland, F. J. (2000). Relations between dietary restraint and patterns of alcohol use in young adult women. *Psychology of Addictive Behaviors, 14*(1), 77-82.

Stice, E., & Gonzales, N. (1998). Adolescent temperament moderates the relation of parenting to antisocial behavior and substance use. *Journal of Adolescent Research, 13*(1), 5-31.

Stice, E., Presnell, K., & Bearman, S. K. (2001). Relation of early menarche to depression, eating disorders, substance abuse, and comorbid psychopathology among adolescent girls. *Developmental Psychology, 37*(5), 608-619.

Stocker, S. (1998). Men and women in drug abuse treatment relapse at different rates and for different reasons. *NIDA Notes, 13* (4), 5-6.

Strawbridge, W. J., Shema, S. J., Cohen, R. D., & Kaplan, G. A. (2001). Religious attendance increases survival by improving and maintaining good health behaviors, mental health, and social relationships. *Annals of Behavioral Medicine, 23*(1), 68-74.

Strunin, L., & Hingson, R. (1992). Alcohol, drugs, and adolescent sexual behavior. *International Journal of the Addictions, 27*(2), 129-146.

Su, S. S., Hoffman, J. P., Gerstein, D. R., & Johnson, R. A. (1997). The effect of home environment on adolescent substance use and depressive symptoms. *Journal of Drug Issues, 27*(4), 851-877.

Substance Abuse and Mental Health Services Administration. (1995). *Making the link: Alcohol, tobacco, and other drugs and women's health.* [On-line]. Retrieved October 26, 2001 from the World Wide Web: http://www.health.org.

Sussman, S., Dent, C. W., Nezami, E., Stacy, A. W., Burton, D., & Flay, B. R. (1998). Reasons for quitting and smoking temptation among adolescent smokers: Gender differences. *Substance Use and Misuse, 33*(14), 2703-2720.

Sutherland, I., & Willner, P. (1998). Patterns of alcohol, cigarette and illicit drug use in English adolescents. *Addiction, 93*(8), 1199-1208.

Tapert, S. F., Aarons, G. A., Sedlar, G. R., & Brown, S. A. (2001). Adolescent substance use and sexual risk-taking behavior. *Journal of Adolescent Health, 28*(3), 181-189.

Tapert, S. F., Brown, G. G., Kindermann, S. S., Cheung, E. H., Frank, L. R., & Brown, S. A. (2001). fMRI measurement of brain dysfunction in alcohol-dependent young women. *Alcoholism: Clinical and Experimental Research, 25*(2), 236-245.

Tarter, R., Vanyukov, M., Giancola, P., Dawes, M., Blackson, T., Mezzich, A., et al. (1999). Etiology of early age onset substance use disorder: A maturational perspective. *Development and Psychopathology, 11*(4), 657-683.

Tarter, R. E. (1988). Are there inherited behavioral traits that predispose to substance abuse? *Journal of Consulting and Clinical Psychology, 56*(2), 189-196.

Task Force of the National Advisory Council on Alcohol Abuse and Alcoholism. (2002). *A call to action: Changing the culture of drinking at U.S. colleges* (NIH Pub. No. 02-5010). Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Alcohol Abuse and Alcoholism.

Taylor, J. M., Gilligan, C., & Sullivan, A. M. (1995). *Between voice and silence: Women and girls, race and relationship.* Cambridge, MA: Harvard University Press.

Templin, D. P., & Martin, M. J. (1999). The relationship between religious orientation, gender, and drinking patterns among Catholic college students. *College Student Journal, 33*(4), 488-495.

Thadhani, R., Camargo, C. A., Stampfer, M. J., Curhan, G. C., Willett, W. C., & Rimm, E. B. (2002). Prospective study of moderate alcohol consumption and risk of hypertension in young women. *Archives of Internal Medicine, 162*(5), 569-574.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997). *Back to school 1997: National survey of American attitudes on substance abuse III: Teens and their parents, teachers and principals.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1997). *Substance abuse and the American woman.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Back to school 1999: National survey of American attitudes on substance abuse V: Teens and their parents.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (1999). *Dangerous liaisons: Substance abuse and sex.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2000). *Missed opportunity: National survey of primary care physicians and patients on substance abuse.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *So help me God: Substance abuse, religion and spirituality.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *Malignant neglect: Substance abuse and America's schools.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2001). *The national survey of American attitudes on substance abuse VI: Teens.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Household Survey on Drug Abuse (NHSDA), 1999* [Data file]. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the National Longitudinal Study of Adolescent Health (Add Health), 1996* [Data file]. Chapel Hill, NC: University of North Carolina at Chapel Hill, Carolina Population Center.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *CASA analysis of the Youth Risk Behavior Survey (YRBS), 1999* [Data file]. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2002). *National survey of American attitudes on substance abuse VII: Teens, parents and siblings.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

The National Center on Addiction and Substance Abuse (CASA) at Columbia University. (2003). *Food for thought: Substance abuse and eating disorders.* New York: The National Center on Addiction and Substance Abuse (CASA) at Columbia University.

Timmerman, M. G., Wells, L. A., & Chen, S. (1990). Bulimia nervosa and associated alcohol abuse among secondary school students. *Journal of the American Academy of Child and Adolescent Psychiatry, 29*(1), 118-122.

Tobler, N. S., Roona, M. R., Ochshorn, P., Marshall, D. G., Streke, A. V., & Stackpole, K. M. (2000). School-based adolescent drug prevention programs: 1998 meta-analysis. *Journal of Primary Prevention, 20*(4), 275-336.

Tomeo, C. A., Field, A. E., Berkey, C. S., Colditz, G. A., & Frazier, A. L. (1999). Weight concerns, weight control behaviors, and smoking initiation. *Pediatrics, 104*(4), 918-924.

Treloar, S. A., & Martin, N. G. (1990). Age of menarche as a fitness trait: Nonadditive genetic variance detected in a large twin sample. *American Journal of Human Genetics, 47*(1), 137-148.

Tschann, J. M., Adler, N. E., Irwin Jr., C. E., Millstein, S. G., Turner, R. A., & Kegeles, S. M. (1994). Initiation of substance use in early adolescence: The roles of pubertal timing and emotional distress. *Health Psychology, 13*(4), 326-333.

Turner, A. P., Larimer, M. E., & Sarason, I. G. (2000). Family risk factors for alcohol-related consequences and poor adjustment in fraternity and sorority members: Exploring the role of parent-child conflict. *Journal of Studies on Alcohol, 61*(6), 818-826.

U.S. Department of Education. (1993). *Youth and alcohol: Selected reports to the Surgeon General* (GPO Item No. 0455-B-02). Washington, DC: U. S. Government Printing Office.

Unger, J. B., & Rohrbach, L. A. (2002). Why do adolescents overestimate their peers' smoking prevalence? Correlates of prevalence estimates among California 8th-grade students. *Journal of Youth and Adolescence, 31*(2), 147-153.

Urbano-Márquez, A., Estruch, R. , Fernández-Solá, J., Nicolás, J. M., Paré, J. C., & Rubin, E. (1995). The greater risk of alcoholic cardiomyopathy and myopathy in women compared with men. *JAMA, 274*(2), 149-154.

Vakalahi, H. F. (2001). Adolescent substance use and family-based risk and protective factors: A literature review. *Journal of Drug Education, 31*(1), 29-46.

Vakalahi, H. F., Harrison, R. S., & Janzen, F. V. (2000). The influence of family-based risk and protective factors on adolescent substance use. *Journal of Family Social Work, 4*(1), 21-34.

Vally, H., de Klerk, N., & Thompson, P. J. (2000). Alcoholic drinks: Important triggers for asthma. *Journal of Allergy and Clinical Imunology, 105*(3), 462-467.

van den Bree, M. B. M., Johnson, E. O., Neale, M. C., & Pickens, R. W. (1998). Genetic and environmental influences on drug use and abuse/dependence in male and female twins. *Drug and Alcohol Dependence, 52*(3), 231-241.

van den Bree, M. B. M., Svikis, D. S., & Pickens, R. W. (1998). Genetic influences in antisocial personality and drug use disorders. *Drug and Alcohol Dependence, 49*(3), 177-187.

Van Etten, M. L., Neumark, Y. D., & Anthony, J. C. (1999). Male-female differences in the earliest stages of drug involvement. *Addiction, 94*(9), 1413-1419.

von Kries, R., Toschke, A. M., Koletzko, B., & Slikker Jr., W. (2002). Maternal smoking during pregnancy and childhood obesity. *American Journal of Epidemiology, 156*(10), 954-961.

Voorhees, C. C., Schreiber, G. B., Schumann, B. C., Biro, F., & Crawford, P. B. (2002). Early predictors of daily smoking in young women: The National Heart, Lung, and Blood Institute Growth and Health Study. *Preventive Medicine, 34*(6), 616-624.

Wagner, E. F., & Atkins, J. H. (2000). Smoking among teenage girls. *Journal of Child and Adolescent Substance Abuse, 9*(4), 93-110.

Wagner, E. F., Myers, M. G., & McIninch, J. L. (1999). Stress-coping and temptation-coping as predictors of adolescent substance use. *Addictive Behaviors, 24* (6), 769-779.

Walitzer, K. S., & Sher, K. J. (1996). A prospective study of self-esteem and alcohol use disorders in early adulthood: Evidence for gender differences. *Alcoholism: Clinical and Experimental Research, 20*(6), 1118-1124.

Wallace, J. M. (1999). The social ecology of addiction: Race, risk, and resilience. *Pediatrics, 103*(5), 1122-1127.

Wallace, J. M., & Bachman, J. G. (1991). Explaining racial/ethnic differences in adolescent drug use: The impact of background and lifestyle. *Social Problems, 38*(3), 333-357.

Wallack, L., Grube, J., Madden, P., & Breed, W. (1990). Portrayals of alcohol on prime-time television. *Journal of Studies on Alcohol, 51*(5), 428-437.

Wang, M. Q., Fitzhugh, E. C., Westerfield, R. C., & Eddy, J. M. (1995). Family and peer influences on smoking behavior among American adolescents: An age trend. *Journal of Adolescent Health, 16*(3), 200-203.

Wareing, M., Fisk, J. E., & Murphy, P. N. (2000). Working memory deficits in current and previous users of MDMA ("ecstasy"). *British Journal of Psychology, 91*(Pt. 2), 181-188.

Warner, J., Weber, T. R., & Albanes, R. (1999). "Girls are retarded when they're stoned": Marijuana and the construction of gender roles among adolescent females. *Sex Roles, 40*(1-2), 25-43.

Wartik, N. (2001, June 24). Paying a price for drinking men under the table. *New York Times,* 15:4.

Wechsler, H., Davenport, A. E., Dowdall, G. W., Moeykins, B., & Castillo, S. (1994). Health and behavioral consequences of binge drinking in college: A national survey of students in 140 campuses. *JAMA, 272*(21), 1672-1677.

Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002). Trends in college binge drinking during a period of increased prevention efforts: Findings from 4 Harvard School of Public Health College Alcohol Study surveys: 1993-2001. *Journal of American College Health, 50*(5), 203-217.

Wee, C. C., Rigotti, N. A., Davis, R. B., & Phillips, R. S. (2001). Relationship between smoking and weight control efforts among adults in the United States. *Archives of Internal Medicine, 161*(4), 546-550.

Weinberg, N. Z. (1997). Cognitive and behavioral deficits associated with parental alcohol use. *Journal of the American Academy of Child and Adolescent Psychiatry, 36*(9), 1177-1186.

Whalen, C. K., Jamner, L. D., Henker, B., & Delfino, R. J. (2001). Smoking and moods in adolescents with depressive and aggressive dispositions: Evidence from surveys and electronic diaries. *Health Psychology, 20*(2), 99-111.

Whitbeck, L. B. (1999). Primary socialization theory: It all begins with the family. *Substance Use and Misuse, 34*(7), 1025-1032.

Wichstrøm, L. (1998). Alcohol intoxication and school dropout. *Drug and Alcohol Review, 17*(4), 413-421.

Wichstrøm, L. (2001). The impact of pubertal timing on adolescents' alcohol use. *Journal of Research on Adolescence, 11*(2), 131-150.

Wickrama, K. A., Conger, R. D., Wallace, L. E., & Elder., G. H. (1999). The intergenerational transmission of health-risk behaviors: Adolescent lifestyles and gender moderating effects. *Journal of Health and Social Behavior, 40*(3), 258-272.

Widom, C. S., Weiler, B. L., & Cottler, L. B. (1999). Childhood victimization and drug abuse: A comparison of prospective and retrospective findings. *Journal of Consulting and Clinical Psychology, 67*(6), 867-880.

Wiederman, M. W., & Pryor, T. (1996). Substance use among women with eating disorders. *International Journal of Eating Disorders, 20*(2), 163-168.

Wiesner, M., & Ittel, A. (2002). Relations of pubertal timing and depressive symptoms to substance use in early adolescence. *Journal of Early Adolescence, 22*(1), 5-23.

Wilens, T. E., Biederman, J., Millstein, R. B., Wozniak, J., Hahesy, A. L., & Spencer, T. J. (1999). Risk for substance use disorders in youths with child- and adolescent-onset bipolar disorder. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(6), 680-685.

Williams, J. S. (2002). Cocaine's effects on cerebral blood flow differ between men and women. *NIDA Notes, 17*(2), 1, 6.

Wills, T. A. (1986). Stress and coping in early adolescence: Relationships to substance use in urban school samples. *Health Psychology, 5*(6), 503-529.

Wills, T. A., McNamara, G., Vaccaro, D., & Hirky, A. (1996). Escalated substance use: A longitudinal grouping analysis from early to middle adolescence. *Journal of Abnormal Psychology, 105*(2), 166-180.

Wills, T. A., Vaccaro, D., & McNamara, G. (1992). The role of life events, family support, and competence in adolescent substance use: A test of vulnerability and protective factors. *American Journal of Community Psychology, 20*(3), 349-374.

Wills, T. A., Sandy, J. M., Shinar, O., & Yaeger, A. (1999). Contributions of positive and negative affect to adolescent substance use: Test of bidimensional model in a longitudinal study. *Psychology of Addictive Behaviors, 13*(4), 327-338.

Wilsnack, R. W., Wilsnack, S. C., Kristjanson, A. F., & Harris, T. B. (1998). Ten-year prediction of women's drinking behavior in a nationally representative sample. *Women's Health, 4*(3), 199-230.

Wilsnack, S. C., Vogeltanz, N. D., Klassen, A. D., & Harris, T. R. (1997). Childhood sexual abuse and women's substance abuse: National survey findings. *Journal of Studies on Alcohol, 58*(3), 264-271.

Wilson, D. B., & Nietert, P. J. (2002). Patterns of fruit, vegetable, and milk consumption among smoking and nonsmoking female teens. *American Journal of Preventive Medicine, 22*(4), 240-246.

Wilson, D. M., Killen, J. D., Hayward, C., Robinson, T. N., Hammer, L. D., Kraemer, H. C., et al. (1994). Timing and rate of sexual maturation and the onset of cigarette and alcohol use among teenage girls. *Archives of Pediatrics and Adolescent Medicine, 148*(8), 789-795.

Wilson, N., Battistich, V., Syme, L., & Boyce, W. T. (2002). Does elementary school alcohol, tobacco, and marijuana use increase middle school risk? *Journal of Adolescent Health, 30*(6), 442-447.

Windle, M. (1991). The difficult temperament in adolescence: Associations with substance use, family support, and problem behaviors. *Journal of Clinical Psychology, 47*(2), 310-315.

Windle, M., & Windle, R. C. (1996). Coping strategies, drinking motives, and stressful life events among middle adolescents: Associations with emotional and behavioral problems and with academic functioning. *Journal of Abnormal Psychology, 105*(4), 551-560.

Winters, K. C. (1999). Treating adolescents with substance use disorders: An overview of practice issues and treatment outcome. *Substance Abuse, 20*(4), 203-225.

Wiseman, C. V., Turco, R. M., Sunday, S. R., & Halmi, K. A. (1998). Smoking and body image concerns in adolescent girls. *International Journal of Eating Disorders, 24*(4), 429-433.

Woodby, L. L., Windsor, R. A., Snyder, S. W., Kohler, C. L., & Diclemente, C. C. (1999). Predictors of smoking cessation during pregnancy. *Addiction, 94*(2), 283-292.

Wright, L. S. (1983). Correlates of reported drinking problems among male and female college students. *Journal of Alcohol and Drug Education, 28*(3), 47-57.

Wu, L.-T., & Anthony, J. C. (1999). Tobacco smoking and depressed mood in late childhood and early adolescence. *American Journal of Public Health, 89*(12), 1837-1840.

Young, N. K. (1997). Effects of alcohol and other drugs on children. *Journal of Psychoactive Drugs, 29*(1), 23-42.

Zhang, Z.-F., Morgenstern, H., Spitz, M. R., Tashkin, D. P., Yu, G.-P., Marshall, J. R., et al. (1999). Marijuana use and increased risk of squamous cell carcinoma of the head and neck. *Cancer Epidemiology, Biomarkers and Prevention, 8*(12), 1071-1078.

Zhu, S.-H., Sun, J., Billings, S. C., Choi, W. S., & Malarcher, A. (1999). Predictors of smoking cessation in U.S. adolescents. *American Journal of Preventive Medicine, 16*(3), 202-207.

Zickler, P. (2000). Evidence builds that genes influence cigarette smoking. *NIDA Notes, 15*(2), 1, 5.

Zickler, P. (2001). Adolescents, women, and whites more vulnerable than others to becoming nicotine dependent. *NIDA Notes, 16*(2), 9, 11.

Zill, N., Nord, C. W., & Loomis, L. S. (1995). *Adolescent time use, risky behavior and outcomes: An analysis of national data: Executive summary.* Rockville, MD: Westat.

Zucker, R. A., & Fitzgerald, H. E. (1991). Early developmental factors and risk for alcohol problems. *Alcohol Health and Research World, 15*(1), 18-24.

Zweben, J. E. Eating disorders and substance abuse. *Journal of Psychoactive Drugs, 19*(2), 181-192.

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